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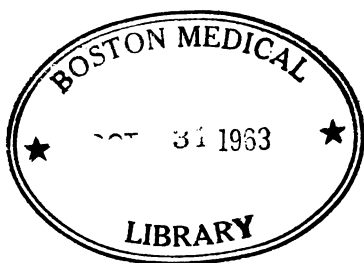
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WILD BIRDS
OF IOWA

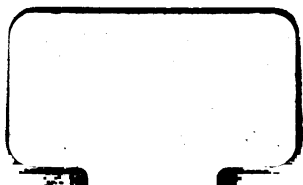
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Donald G. Hunter

200 WILD BIRDS OF IOWA

A HANDBOOK

FOR USE IN SCHOOLS, AND AS A GUIDE IN IDENTIFICATION FOR ALL WHO DESIRE TO BECOME ACQUAINTED WITH OUR COMMON BIRDS.

BY

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You slay them all! and wherefore? For the gain
Of a scant handful, more or less, of wheat,
Or rye, or barley, or some other grain,
Scratched up at random by industrious feet
Searching for worm or weevil after rain;
Or a few cherries that are not so sweet
As are the songs these uninvited guests
Sing at their feast with comfortable breasts.

Do you ne'er think what wondrous beings these?
Do you ne'er think who made them and who taught
The dialect they speak, where melodies
Alone are the interpreters of thought,
Whose household words are songs in many keys,
Sweeter than instruments of man e'er caught!
Whose habitations in the tree-tops even
Are half-way houses on the road to heaven!

Think, every morning when the sun peeps through
The dim, leaf latticed windows of the grove,
How jubilant the happy birds renew
Their old melodious madrigals of love!
And when you think of this, remember, too,
'Tis always morning somewhere, and above
The awakening continents from shore to shore,
Somewhere the birds are singing evermore.

—H. W. Longfellow.

PREFACE

The purpose of this little handbook is to enable all who desire to know them, to become acquainted with the most common birds found within our state.

It is placed in your hands as a note of introduction to the feathered folk, with the hope that you will avail yourself of every opportunity to meet them and become their friend.

For surely they will grow into your affection, and a more pleasurable thrill will be yours at each new meeting.

It has not been easy to choose the two hundred species which are here described from among the many others which seem quite as eligible because quite as common, but our aim has been to select those which we believe are best known to the largest number of people in the state.

An especially useful feature of this handbook is the color key which will enable one in the shortest possible time to identify the bird under observation.

Acknowledgement for the kindly interest shown and the assistance rendered by friends will be made elsewhere in the book.

Iowa's Favored Locality

Lying in the embrace of two mighty rivers, our state forms a part of the greatest pathway for bird migration in *all the world*. Following the channels of these two great river basins, there pours a vernal and autumnal flood of bird life, varied, rich in color and song, attractive both to eye and ear.

Within our borders lie marshes and lakes, level plains and rolling prairies, timbered bottom lands and wooded bluffs—in fact, a topography suited for the nesting of birds of many kinds.

200 BIRDS OF IOWA

Important Notes and Suggestions

In these descriptions the birds are arranged by orders and families, commencing with the thrushes. When two or more birds are in the same family those most likely to be the first ones identified are the first ones described.

Whenever possible birds of the same family are described on the same or opposite pages, so that, without turning the leaf, all are before the eye.

Five numbers are given on each page or 10 to each folio, whereby the unit figure determines their exact positions.

Descriptions note first the length, then the color above and the color below. Any characteristic features are in italics.

Following the description in many cases are mentioned the names of those birds with which that species may be confused.

Some Definitions

BARRED	With markings crosswise of the feathers.
STREAKED	With markings lengthwise of the feathers.
MOTTLED	With markings without regular arrangement.
SPOTTED	With markings small, distinct and round.
PATCH	A coloring of considerable extent.
WING BAR	A transverse patch on wing caused by one row of feathers tipped with lighter color.
TWO WING BARS	Two transverse patches on wings by two rows of feathers tipped with lighter color.
CREST	A bunch or line of erectile feathers on top of head.

Abbreviations

S. or S. V.—Summer Visitor, seen in summer only.

W. or W. V.—Winter Visitor, seen in winter only.

R.—Resident—Remaining during the entire year.

M.—Migrant, seen during migrations only.

To denote the relative abundance, use is made of the first seven letters of the alphabet, excepting B, as follows:

A. Abundant.	E. Rather rare; not common.
C. Common.	F. Rare (very few).
D. Rather Common.	G. Straggler or accidental visitant.

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When to Observe and How

March, April and May are the months of the spring migration when most species can be easiest recognized because there is less verdure to interfere. The summer birds arrive during these months, and many migrants pass through on their way farther north.

In June, July and August most birds are nesting and rearing their young, though some nest much earlier. During these months become familiar with the habits of the summer and the resident birds.

September, October and November are the months of the fall migration when our summer birds leave. Migrants from further north come through with their young, some of which are indistinctly colored and are best recognized by their association with the adults.

In December, January and February watch for the winter visitants. The residents also deserve attention. There is more of interest to be seen in the winter than most persons suppose.

Early morning is the best time to go afield. Go alone or with only one or two companions. Wear preferably clothing of dull color. Do not run after the birds. Stand still much of the time, or move quietly along, avoiding undue noise or quick motions. In this way birds will often come to you as if out of curiosity.

Study the habits and note the songs of the birds you already know. In this way you can often recognize an acquaintance before having a chance to see his coloration.

Keep this book with you and also a small note book and pencil. Carefully take notes of every strange bird seen. You will find the memory alone not sufficiently reliable.

Field or opera glasses are a great aid in studying the birds, but are by no means indispensable.

Be a friend of the birds yourself and do not confide their secrets to any but those who are also their friends and who can be trusted. Be especially careful on this point in regard to birds that are already rare. Let your influence be felt by those about you in behalf of the protection of our birds, and endeavor to increase their number and variety in your vicinity.

The Color Key

You will note at the top of pages 8 and 9 the mention of different color features and at the right a list of names of birds.

Whenever a color column crosses a line on which is the name of a bird possessing the color feature designated, a mark is found on that line in the column.

That mark is in some cases a number designating the length of the bird in inches. In other cases it is a word designating the part of the bird on which the color is found. Note the following:

Instructions

Notice the prominent color features of your bird and its approximate length. Follow down the column designating the most conspicuous color feature until you reach a number corresponding with your bird's length or a word telling on what part of its body the color is found. See whether all other color features designated on the same line in the other columns coincide, and if so, turn to the description for further detail. If this description does not prove to be the right one follow down the original color column to the next indication.

Learn to estimate quite accurately lengths of birds seen, by mental comparisons with such birds as Robin, 10 inches; English Sparrow, 6 inches; House Wren, 5 inches, etc. This and some practice in the use of the key will make you proficient in finding the right descriptions quickly.

When the coloration of the male changes at different seasons or is different from the female, the male alone is considered, and in his spring coloration.

Only the perching birds (Passeries) are included in the color key, and the different families are separated by heavier horizontal lines.

COLOR KEY	Plumage above, wholly, partially or conspicuously								Below wholly or partially				Noticeably Marked				Observe Instructions on preceding page	
	Black	Gray or olive	Rufous or brown	Yellow or orange	Blue or blue-gray	Red	White on wings	" on tail	Black	Gray or olive	Rufous or brown	Yellow	White	Above and below	Above only	Below only		Not at all
	10								10					10				Robin 0
				7					7						7			Bluebird 1
		8								8				8				Thrush, Wood 2
		7								7				7				Hermite 3
		7i								7i				7i				Wilson 4
	7								7					7				Olive-backed 5
	4i				cap	bars				4i				4i				Kinglet, Ruby-cr'd 6
	4	cap			bar					4				4				Golden-crowned 7
				4i		edge			4i			4i	4i	4i				Gnatcatcher, Blue Gray 8
cap	5						thrt			5				5				Chickadee 9
cap				b						b				b				Nuthatch, White-br'd 10
cap				4i					4i					4i				Red-breasted 11
	5i									5i		5i	5i					Creeper, Brown 12
cap	9								9					9				Calbird 13
	10			10		10	edge		10					10				Mockingbird 14
		11				bars				11				11				Thrasher, Brown 15
		5							5		5							Wren, Western House 16
		5								5		5						Prairie Marsh 17
		4							4					4				Short-billed Marsh 18
		6i				bar	edge			6i				6i				Pipit, Am. 19
		s								5				5				Wartler, Yellow 20
		rmp	5i			bars	edge			5i	5i							Yellow-rumped 21
5						bars				5	5							Black and White 22
	5	cap				bar			Pch	5		5		5				Chestnut-sided 23
	5i	cap					edge			5i	5i							Western Palm 24
5		5						brst		5				5				Redstart, Am. 25
	7i								brst	7i					7i			Chat. Yellow-breasted 26
	b									b				b				Ovenbird 27
5i		5i				bars	edge			5i				5i				Warbler, Blackbr'n 28
face	5									5				5				Northern Yellow Th. 29
cap	5	face								5				5				Wilson's 30
5	5	rmp	cap		pch	spot				5				5				Magnolia 31
			4i		bars		brst			4i		4i						Cerulean 32
	5	cap		5i	bars	edge				5				5				Blue-winged Yellow 33
cap	5i	5i			bars	pch				5i		5i	5i	5i				Prothonotary 34
	5i									5i				5i				Blackpoll 35
	5i									5i				5i				Canadian 36
	5i					bars				5i								Worm-eating 37
	5		s			bars	edge			chin	5				5i			Pine 38
thrt				5		pch		brst		5								Black-throat Green 39
	5	ears				bar				chin	5							Black-throat Blue 40
	5									5	5							Cape May 41
			back	5	bars				brst	5	5				5			Tennessee 42
wing				7														Western Parula 43
8								8										Tanager, Scarlet 44
	face		7						thrt									Marlin, Purple 45
	5								brst	5				5				Swallow, Barn 46
cap	b		b				brst	thrt						b				Bank 47
b			b							b				b				Cliff 48
face		7							brst	7					7			White-bellied 49
	b									b					6			Waxwing, Cedar 50
b										b	b				6			Vireo, Red-eyed 51
										b	b				6			Warbling 52

COLOR KEY	Plumage above, wholly, partially or conspicuously							Below wholly or partially				Noticeably Marked					
	Black							Gray or olive				Yellow or brown					
	Rufous or brown							Yellow				Above and below					
	White on wings or tail							White				Below only					
	Black	Gray or olive	Rufous or brown	Yellow or orange	Blue or blue-gray	Red	White on wings or tail	Black	Gray or olive	Rufous or brown	Yellow	White	Above and below	Above only	Below only	Not at all	
	S					bars			S	S					S	Vireo, Bells	53
	S								S							Philadelphia	54
	S					bars		S		S						White-eyed	55
	b					bars			brst	b				b		Yellow-throated	56
	5½								5½					5½		Blue-headed	57
tail	10		cap		pick	tip			10					10		Shrike, Northern	58
	9				pick	edge			9	9						Northern Loggerhead	59
cap		b		S		spots	thrt		brst	b	b				S	Dickcissel	60
8					brst	spot	pick		5							Goldfinch	61
				5½						8	8					Grosbeak, Rose-brst	62
8		side				pick	edge	thrt						5½		Indigo Bird	63
	b						edge	thrt		8						Towhee	64
		b								b						Junco	65
	5½					bar			5½		5½		5½			Sparrow, Song	66
6	cap					bars			b				b			Field	67
	5½					bars			5½				5½			Tree	68
	5½										5½		5½			Chipping	69
	7	7								7	7					Grasshopper	70
	b					tip				b			b			Fox	71
cap	7							7		thrt			7			Lark	72
brst	7					bars		7					7			White-throated	73
b	b									b	b					White-crowned	74
	7½									7½	7½					Vesper	75
b	b									6	b					Savanna	76
S	S					pick		5								Lincoln	77
	S			cap	bar					5						Siskin, Pine	78
				b						6			b			Redpoll	79
										7						Finch, Purple	80
																Snowflake	81
face						b	chin									Crossbill, Am. Red	82
cap	8					pick			8					8		Cardinal	83
	11					edge			brst	11			11			Grosbeak, Evening	84
	11					edge			brst	11			11			Meadowlark	85
7½		rmp				bar	thrt		7½							Western	86
7		rmp					thrt									Oriole, Baltimore	87
7							7									Orchard	88
13							13						7			Bobolink	89
8		neck														Grackle, Bronzed	90
9					pick		9							8		Cowbird	91
10		head			spot				brst					9		Blackbird, Red-wing	92
9½							9½							10		Yellow-headed	93
			12				brst		12	12				9½		Rusty	94
19							19									Blue Jay	95
	7						brst		7		7					Crow	96
8½						tip			8½							Lark, Prairie Horned	97
7							7							8½		Kingbird	98
	b½					bars	b½							7		Phoebe	99
9	b					bars	thrt		9		brst			6½		Pewee, Wood	100
									6	b						Flycatcher, Gt. crested	101
	5½					bar		5½								Trail's	102
																Acadian	103
																Least	104
5½									5½							Yellow-bellied	105

Key to the Birds of Prey. (Raptors)

HAWKS

LARGE-SIZED HAWKS.

- (1) Bright red tail; circles high in air; called Big Chicken Hawk. RED-TAILED HAWK, 130.
Dark; black band on breast and on tail; here in winter only and usually hunting field mice. ROUGH-LEGGED HAWK, 138.
Conspicuous chestnut shoulder markings; banded tail; in timbered river bottoms. RED-SHOULDERED HAWK, 137.
Black and white; always near and often over water; feeds on fish. FISH HAWK, 129.

MEDIUM-SIZED HAWKS.

- (2) Brownish or bluish, slender; rounded wings; rounded tail; in woods. COOPER'S HAWK, 133.
Red or slaty gray; white area at base of tail; slender; in marshes. MARSH HAWK, 135.
Brown and white; has sluggish unsuspicious habits. BROAD-WINGED HAWK, 136.
Forked tail and pointed wings; like a big swallow; unmistakable. SWALLOW-TAILED KITE, 128.

SMALL SIZED HAWKS.

- (3) Slender; brownish; long, square tail; edge of woods and thickets. SHARP-SHINNED HAWK, 134.
Bluish slate; long tail; long, pointed wings; dark below. PIGEON HAWK, 132.
Rufous and bluish; long, pointed wings; light below; black-striped on cheeks. SPARROW HAWK, 131.

OWLS

OWLS WITH CONSPICUOUS EAR TUFTS.

- Largest size; dark colored; nest open or in hollow tree. GREAT HORNED OWL, 122.
Medium size; hunting only at night; nest in thickets. LONG-EARED OWL, 123.
Small size (either red or gray); nest in hollow trees. SCREECH OWL, 120.

OWLS WITHOUT CONSPICUOUS EAR TUFTS.

- (2) Largest size, white; here only in winter. Nest in far North. SNOWY OWL, 125.

Large size, grayish; with blue-black eyes; nest in hollow trees. BARRED OWL, 121.

Medium size, yellowish brown; often in sloughs in day-time. Nest on ground. SHORT-EARED OWL, 124.

Key to the Water Birds

SHORE BIRDS.

Small to medium sized, with long legs fitted for wading; rather long necks; plump bodies, generally plainly colored; habitually frequenting beaches, sand flats or wet meadows. Notes shrill, piping, rather musical.

PLOVERS, 146, 147.

PHALAROPES, 149.

STILTS, 148.

SNIPES, 150-159.

WADING BIRDS.

Large birds with very long extensively bare legs; bills and necks long; feathers loose and light, often with plumes.

(1) Largest size and often seen on prairies. CRANES, 160.

(2) Small to medium size, skulkers in reedy margins of lakes and in sloughs. RAILS, 161-163.

(3) Heron-like waders often seen standing or walking in the water in quest of frogs and fish. HERONS, 165-169.

SWIMMING BIRDS.

(1) With boat-shaped bodies and webbed feet. Awkward on land but agile in the water.

SWANS, 170, 171.

DUCKS, 175-189.

GEESE, 172, 173.

PELICANS, 190.

CORMORANTS, 191.

(2) Gull-like swimmers; remarkable flyers, with long wings; sharply-pointed, hawk-like bills.

GULLS, 192-194.

TERNs, 195, 196.

DIVING BIRDS.

Duck-like bodies; feet placed far back; good swimmers and divers, but some cannot fly; wings more or less modified as paddles. Near large bodies of water, lakes, rivers.

LOONS, 197.

GREBES, 198, 199.

FAMILY, THE THRUSHES (TURDIDÆ).

0.

ROBIN

10 in. Slaty gray above; black head and tail; bright chestnut below; throat white, spotted with black. Nest in trees and composed of grass and mud. A common S. V., migrating in flocks.

1.

BLUEBIRD

7 in. Bright blue above; *throat and breast rufous*. Female duller. Often seen in pairs. Common S. V. Nest commonly in holes in trees but often in bird houses which should be made without stoops on account of the English sparrows. See Indigo Bird.

2.

WOOD THRUSH

8 in. Rufous above, *brightest on head* and back; olive brown on tail; white below; marked everywhere with round spots except on middle of throat and belly. C. S. V. Nest similar in appearance and position to that of the Robin. See other Thrushes and also Fox Sparrow.

3.

HERMIT THRUSH

7 in. Olive brown above; *tail bright reddish brown*; buffy white below; breast thickly spotted with black. The only thrush with tail brighter than back. Common migrant. Does not sing while migrating, though a good singer.

4.

WILSON'S THRUSH: Veery: Tawny Thrush.

7½ in. *Uniform tawny or cinnamon* above; *no ring about the eye*; breast light buffy, lightly marked with small dark spots; belly white. S. V. More common northward. Nest on or near ground. See other Thrushes.

5. OLIVE-BACKED THRUSH: Swainson's Thrush.

7 in. *Uniformly olive; throat and ring around eye buffy; breast lightly spotted. Here in migration only and gives us a ringing song. C. M. See other Thrushes,*

THE WARBLERS (SYLVIIDÆ).

6. RUBY CROWNED KINGLET.

4½ in. *Ashy green above; two white wing-bars; crest bright red, only partially concealed; below whitish buff. Female without crown patch. A charming and fearless little songster. A. M.*

7. GOLDEN-CROWNED KINGLET: Orange-crowned Kinglet.

4 in. *Olive green above; wings and tail slightly reddish; tail somewhat forked; whitish line above eye; concealed crown bright flame color bordered with yellow and black; under parts whitish. Female without crown patch. C. M.*

8. BLUE-GRAY GNATCATCHER.

4½ in. *Bluish gray above; grayish below; wings edged with gray and white; tail long; outer feathers white. Rather rare, or at least not often seen.*

THE TITMICE (PARIDÆ).

9. CHICKADEE.

5 in. *Ashy-gray above, black cap, nape and throat; white cheeks; brownish-white belly. Nests in cavity in tree or branch. Note "Chic-a-dee-dee." or whistles "Pee-ho." R.*

THE NUTHATCHES (SITTIDÆ).

10. WHITE-BREASTED NUTHATCH.

6 in. Ashy-blue above; *cap and nape black*; cheeks white; *below white*; bill straight, pointed. Constantly exploring the bark of trees. Nuthatches are the only birds we have that hop head first down the tree trunks. Tail not used as a brace. Female similar. Note "Quank-quank." Nest in holes in trees.

11. RED-BREASTED NUTHATCH.

4½ in. Ashy-blue above; *cap and line through eye, black over white*; *below rufous*. Habits same as the White-breasted. Breeds from Manitoba northward.

THE CREEPERS (CERTHIIDÆ)

12. BROWN CREEPER.

5½ in. Brownish streaked with white; white below; bill long, *curved*; *tail feathers stiff and pointed, used as braces*; works spirally upward on tree trunks and boughs. Always busy, quiet and fearless. Breeds in Minnesota and north. Nest behind loosened bark of trees. See Nuthatches. C. M.

THE MOCKERS (MIMIDÆ).

13. CATBIRD.

9 in. *Slate gray*; bill, crown and tail black; below slaty-gray, with *rust red spot below tail*. Calls like a cat. Is a fine singer. Nest in thick bushes, composed of sticks. Eggs darker than those of the robin. Plant a few mulberry trees for the catbirds, robins, etc., and when those trees come to bearing the birds will not molest the cherries. C. S. V.

14. MOCKINGBIRD.

10 in. Ashy-gray; whitish below; wings and tail blackish; wings showing much white in flight; *outer tail feathers white*; *tail very long*. Nest in thick bushes or tangle. Rare S. V. in southern part of state. The king of song birds. See Catbird.

THE THRASHERS (TOXOSTOMÆ).

15. **BROWN THRASHER.**

11 in. Reddish brown; white below, heavily spotted with brown; *two white wing-bars; long bill; long sweeping tail.* Song spirited and varied. Nest often in osage-orange hedges, brush piles and bushes. Common S. V. See Fox Sparrow.

THE WRENS (TROGLODYTIDÆ).

16. **WESTERN HOUSE WREN.**

5 in. Brown finely barred with darker; head and tail darker; below light brownish also barred; tail two-fifths of length of bird and *held upward over the back.* C. S. V. Will nest in any old thing. Bird boxes made for them must have entrances no larger than a quarter.

17. **PRAIRIE MARSH WREN.**

5 in. Brown; very dark on head and tail; back, black streaked with white; white line over eye; wings and tail barred; under parts white; bill $\frac{1}{2}$ inch long. Nest globular, of coarse grass in reeds or bushes, side entrance. Makes many nests that are never utilized. Common S. V.

18. **SHORT-BILLED MARSH WREN.**

4 in. Streaked above with black, white and buff; wings and tail barred; below lighter with buffy effect on breast and sides. Noisy metallic song. Skulkers in wet meadows and marshes. Nest globular with entrance at the side. S. V.

THE WAGTAILS (MOTACILLIDÆ).

19. **AMERICAN PIPIT.**

6½ in. Brownish gray above with reddish cast on wings and tail; below whitish buff streaked except on throat and belly; bar on wings; two outer tail feathers partly white; *hind toe nail very long.* Found on ground in plowed fields. They fly up in a flock and after rising to a great height often return to the very spot from which they started. M. in late fall and early spring but not very common in eastern part of state.

20. YELLOW WARBLER: Summer Yellowbird.

5 in. Yellow all over; darker above; *streaked with orange brown below*. Female duller and less streaked. Sings pleasing song. S. R. Nest in bushes. Often an egg is laid in the nest by a cowbird, in which case the yellowbird occasionally builds a second and even a third story to its nest over the egg of its intruder.

21. YELLOW-RUMPED WARBLER: Myrtle Warbler.

5½ in. Gray streaked with black; *crown, rump and sides of breast yellow*; below white with black patches. Female similar except black streaks below instead of patches. A. M. See Magnolia Warbler.

22. BLACK AND WHITE CREEPING WARBLER.

5 in. Striped black and white. Creeps about trunks and limbs of trees. Nest on stump or ground hard to find. S. V. See Black-poll Warbler and Downy Woodpecker.

23. CHESTNUT-SIDED WARBLER.

5 in. Olive gray with black streak; *crown yellow*; throat and breast white; *chestnut stripe along the sides*. Female duller. Nest in bushes and similar to that of Yellow Warbler. S. V.

24. WESTERN PALM WARBLER.

5½ in. Olive-brownish streaked with darker color; *crown chestnut*; below soiled yellowish white with chestnut streaks on sides; outer tail feathers with white terminals. Feeds on ground. Tilts its tail. A. M.

25.

AMERICAN REDSTART.

5 in. Black with lustre; *orange* — not red — on breast; wings and tail; belly whitish. Female with orange replaced by yellow. Song has three words "Sweet-sweeter-sweeter." An active and striking species. Nest cup-shaped and compact in trees. Common S. V.

26.

AM. YELLOW BREASTED CHAT.

7½ in. Olive green above; *bright yellow below*, except belly, which is white; white eye ring. Largest of our warblers. An eccentric ventriloquist. In open timber land with an abundance of brush. Common S. V.

27.

OVEN BIRD.

6 in. Olive-green; crown golden-brown enclosed with black stripes; white below with brownish spots and streaks; *feeds on the ground*. Note "Teacher-teacher-teacher," increasing in force with each word. Nest, a ball of leaves on ground with opening at side, hence the name Ovenbird. S. V.

28.

BLACKBURNIAN WARBLER.

5½ in. Black with white markings; stripes on black head, spots on cheeks and *entire throat and breast flaming orange*; white wing-bars; below yellowish streaked with black. Female olive-brown with entire breast yellow. Might be called "Torch Birds." Common S. V.

29.

NORTHERN YELLOW-THROATED WARBLER.

5 in. Olive-green, showing brownish tinge; *broad black stripe through eye*; below yellowish. Female duller in color and without any black. Numerous and easily known. Nest in weeds or grass. S. V.

30. WILSON'S BLACK-CAP WARBLER.

5 in. Olive-green above; *crown black*; forehead yellow; below bright yellow. No white patches on wings or tail. A semi-flycatcher. Common migrant.

31. MAGNOLIA WARBLER.

5 in. Dark olive; *crown bluish ash*; rump and throat yellow; streaked with black across breast and sides; white patch on wing; white spots on tail. M. See Yellow-rumped Warbler and Cape May Warbler.

32. CERULEAN WARBLER.

4½ in. Bright blue above; back and sides of head with black streaks; two white wing bars; below whitish with a bluish band on breast. Summer visitor.

33. BLUE-WINGED YELLOW WARBLER.

5 in. Bright olive green above; *crown* and under *parts yellow*; wings and tail with bluish cast; a black eye stripe. Two wing bars. Summer visitor.

34. PROTHONOTARY WARBLER.

5½ in. Greenish yellow back; *grayish on rump with ashy wings and tail*; below bright orange; white on tail feathers. Found in river bottoms. Nest in holes, preferably in willow trees beside water. Fairly common S. V.

35.

BLACKPOLL WARBLER.

5½ in. Black and grayish white streaked; *crown black*; wings with two white bars; middle of breast and belly pure white. Female duller, olive green, streaked faintly with black. C. M. See Black and White Warbler.

36

CANADIAN WARBLER.

5½ in. Gray above; crown spotted with black; yellow below with a *band of black spots across the breast*. After once recognized it is always easily known by its black necklace. C. Migrant.

37.

WORM-EATING WARBLER.

5½ in. Olive green above; head striped with black and olive buff; below whitish with buffy tinge. Found usually on or near the ground. Rather common migrant.

38.

PINE WARBLER.

5½ in. Bright olive green above; bright yellow below with ashy tinge; two white bars on wings. Found most frequently about pine woods. Rather common migrant.

39.

BLACK-THROATED GREEN WARBLER.

5 in. Bright yellowish green; *cheeks yellow; throat and upper breast black*; tail strikingly marked with white; belly white. Rather rare migrant. See Cape May Warbler and Hooded Warbler.

40. BLACK-THROATED BLUE WARBLER.

5 in. Bluish slaty; *black cheeks* and throat and extending along sides; white spot on wings and on outer tail feathers; beneath white. Female greenish-olive above; light yellow beneath and having smaller wing patch. M. but not common. See Blue-gray Gnatcatcher.

41. CAPE MAY WARBLER.

5 in. Yellowish olive with dark brown, darkest on crown; cheeks yellow with *rufous ear patch*; light wing bar. Fairly common migrant.

42. TENNESSEE WARBLER.

5 in. Olive green back with ashy blue head; below white tinged with yellow; no wing bars. Rather common migrant.

43. WESTERN PARULA WARBLER: Blue Yellow-Backed Warbler.

5 in. Grayish blue above; yellowish patch on the back; two white wing bars; yellowish below; a dark or *rufous band across breast*. Belly white. Rather common migrant.

THE TANAGERS (TANAGRIDÆ).

44. SCARLET TANAGER.

7 in. *Scarlet; wings and tail black*. Female light olive; yellowish below; wings and tail brownish. Nest near end of horizontal limbs. Song "Chip-churr." Rather common S. V. See Cardinal.

45.

PURPLE MARTIN.

8 in. *Shining blue-black all over.* Tail forked. Female is lighter with breast gray and belly whitish. Formerly nested in holes in trees, but now mainly about buildings in cornices or in bird houses. A useful and charming neighbor. Rather common. See White-bellied Swallow and Chimney Swift.

46.

BARN SWALLOW.

7 in. Metallic blue; *forehead and throat chestnut*; breast and belly buffy; *tail deeply forked*. Skims low over fields for insects. Nest bracket-like, made of mud and fine hay about beams. Formerly cave dwellers. Gregarious. Common S. V. See White-bellied Swallow.

47.

BANK SWALLOW.

5 in. Brown; light below; *a brown band across the breast*; plumage *without metallic colors*. Smallest of our swallows. Nest in sand banks where tunnels are made two to four feet deep at end of which nest is placed. Common S. V.

48.

CLIFF SWALLOW: Eaves Swallow.

6 in. Back and crown steel blue; forehead buffy white; rump pale buff; throat dark chestnut; breast brown with steel blue patch; tail almost square. Nest in colonies formerly under cliffs, but now mostly under eaves of barns. Nests are of mud, gourd shaped hanging mouth downward.

49.

WHITE-BELLIED SWALLOW: Tree-Swallow.

6 in. Metallic blue-green; below, *pure white unmarked*; tail not deeply forked. Usually seen near water. Nest in hollow trees. Were it not for the house sparrow it would use bird-houses the same as martins. S. V.

THE WAXWINGS (AMPELIDÆ).

50.

CEDAR WAXWING.

7 in. Crest and whole body soft grayish brown; chin and line from bill to crest, black; *end of tail yellow*; wingcoverts often with small red tips; generally elusive, flying high among the tree tops. Not successful as singers. R. Nest in fruit or shade trees built very late in summer.

THE VIREOS (VIREONIDÆ).

51.

RED-EYED VIREO.

6 in. Olive-green; crown gray; white line over eye and a black one over that; white below. Sings a loud broken song while at work. Common S. V. Nest of the hanging kind suspended by the edges and in well timbered tracts. See Warbling Vireo.

52.

WARBLING VIREO.

6 in. Mouse gray; white below tinged with yellowish; no wing bars. Prefers the upper branches. Song a smoothly flowing warble. S. V. Very common. Nest a hanging basket 10 to 40 feet from the ground. See Red-eyed Vireo and Least Flycatcher.

53.

BELL'S VIREO.

5 in. Ashy gray above; greenish on rump; *two whitish wing bars*; whitish in front of and about the eye. Below white with yellowish green cast. Rather common S. V.

54.

PHILADELPHIA VIREO.

5 in. Olive green; below pale greenish yellow. No wing bars. White line above eye. S. V.

55.

WHITE-EYED VIREO.

5 in. Bright olive green above; *two broad yellowish white wing bars*; below greenish, yellow on breast and sides; throat and belly white. S. V. Rather common.

56.

YELLOW-THROATED VIREO.

6 in. Bright olive-green; two white wing bars; *throat and breast bright yellow*; belly white. Song resembles more the Red-eyed but on lower key. S. V. rather common. Nest the hanging kind well made and high from the ground. See Yellow-bellied Flycatcher and Blue-headed Vireo.

57.

BLUE-HEADED VIREO.

5½ in. Olive green above; two white wing bars; below white. Top and sides of head bright bluish gray. *White in front of and around eye*. Migrant.

THE SHRIKES (LANIDÆ).

58.

NORTHERN SHRIKE: Butcherbird.

10½ in. Gray; wings, tail and line back of eye, back; secondaries and tail feathers tipped with white, showing in flight; below white with darkish bars; bill hooked. Song rather pleasing. W. V. Subsists while here on mice and small birds which he often impales on thorns, fence barbs, etc. See Northern Loggerhead Shrike.

59. NORTHERN LOGGERHEAD SHRIKE: Butcherbird.

9 in. Gray above; wings and tail black with white bar on wings. Tail white tipped. Black line through the eye. Nests frequently in osage hedges.

60.

DICKCISSEL.

6 in. Ashy and chestnut, streaked on back with black; white chin; *black throat patch*; yellow breast; white belly; yellow line over eye. Female less yellow and no throat patch. Song "Dick-dick-cissel-cissel" from cornstalk or weed is continued through the hot weather in sunshine or rain.

61.

GOLDFINCH.

5 in. Bright yellow; black cap; wings and tail black marked with white. Males in winter and females brownish tinged with yellow without black cap, throat more yellowish; wings and tail blackish but with white markings. Flight wavy. Song in flight a conversational "Per-chee-chee-chee" timed to movement. Nest built late in summer in bushes. Common R. See Yellow Warbler.

62.

GROSBEAK, ROSE-BREASTED.

8 in. Black above except white rump and wing patches; *breast and lining of wings rose-red*; belly white; bill light colored, very "gross." Good singer. Female dark brown and buff; male assumes female dress in fall. Common S. V.

63.

INDIGO BIRD: Indigo Bunting.

5½ in. *Blue all over*; bill short and stout. Female dull brown, wings and tail darker. Song rapid and irregular, continued throughout the summer and in the hot sun. Nest in fork of bush near ground. S. V.

64.

TOWHEE: Chewink.

8 in. *Black except sides chestnut*; belly white; corners of tail and patch on wings white; bill black; tail drooping and constantly jerking. Call, "Tow-hee" or a nasal "Che-wink." Female brown replacing black. S. V. common.

65.

JUNCO: Snowbird.

6 in. Slate-gray; belly white; outer tail feathers white showing plainly in flight. Breed from Manitoba northward. W. V. Common, October to April.

66.

SONG SPARROW.

6 in. Chestnut streaked with gray and black; below whitish streaked and shading to dark spot in the middle of breast. Nest on the ground, concealed. Song lively and charming. C. S. V. See Lincoln Sparrow.

67.

FIELD SPARROW.

5½ in. Reddish brown on crown and back, the latter finely black streaked; bill chestnut; collar ashy; breast buffy, unspotted; indistinct wing bar. Song "Fe-o, fe-o, fe-o, few, few, few, fee, fee, fee," commencing slow, increasing to almost a trill. Abundant where there are bushes. Nest on ground or low bushes. S. V. See Chipping Sparrow and Tree Sparrow.

68.

TREE SPARROW.

6 in. Grayish streaked with reddish brown; top of head chestnut; small black spot in middle of light brownish breast; one white wing bar; upper mandible black, lower yellow. Fine song. A skulker in hedges and brush piles. Quite shy. W. V. See Chipping Sparrow and Field Sparrow.

69.

CHIPPING SPARROW.

5½ in. Brown with black and gray; plain grayish below; crown chestnut; two faint white wing bars; whitish line over eye; bill black. Song rapid "Chippy chippy." Nest often near our homes in bush or tree, usually hair-lined. S. V. See Tree Sparrow and Field Sparrow.

70.

GRASSHOPPER SPARROW.

5½ in. Brownish, buff and ashy above; crown dark with a buff line in the center; *a yellow spot before the eye and on edge of the wing*. Below plain with buffy on breast and sides; belly white. A weak singer and altogether unobtrusive. D. S. V.

71.

FOX-COLORED SPARROW: Fox Sparrow.

7 in. Fox-red back wings and tail, back and crown mixed with brown; slaty gray about neck; breast white, heavily marked with dark brown. Fine song. The largest and most conspicuous of our sparrows. M. See Brown Thrasher and Hermit Thrush.

72.

LARK SPARROW.

6 in. Grayish with darker; *sides of head and stripes on crown giving streaked appearance*; rather long, rounded tail black, but *showing white on edges and tips of outer feathers in flight*. Fine song. R. Stays in fields. Nest on ground among old weeds or grass.

73.

WHITE-THROATED SPARROW.

7 in. Chestnut brown with black and ashy; *throat white*; crown black with medium white stripe; white line over eye becoming *yellow near bill*; breast ashy. Whistles "pee-dod-see-dee-dee." A clear sweet song. One of our finest sparrows. Found in thickets. Common migrant. Comes from north about time of first frosts.

74.

WHITE-CROWNED SPARROW.

7 in. Brownish gray; breast gray; crown striped black and white, the middle of equal width, no yellow; two white wing bars. Notice its song. W. V. often with the white-throated Sparrow. Burroughs says he is the rarest and most beautiful of the sparrow kind.

75. VESPER SPARROW.

6 in. Brownish black streaked; breast and sides streaked with dark; chestnut patch on wings; *outer tail feathers white in flight*. Fine sweet song, heard long distance. Nest on ground. S. V.

76. SAVANNA SPARROW.

5½ in. Brownish black much streaked; *bend of wing and line over eye*, yellowish; white below, heavily streaked with dark; tail short; song a weak unusual little trill. Abundant in grassy fields. S. V.

77. LINCOLN SPARROW.

6 in. Streaked with brown and black above; tail rounded; below white finely streaked with black and with a *light buff band across the breast*. Common but shy.

78. PINE SISKIN.

5 in. Brownish streaked with black above and below; *wing and tail feathers with yellow at base*. Similar to Goldfinch in song, flight, manner, and in most other characteristics. Nest in pine trees far out on branches. W. V.

79. REDPOLL: Redpoll Linnet.

5 in. Brownish; *crown red*; breast and rump marked with rose. Female without rose. Call note and habits similar to Goldfinch. Fairly common in some localities. Feeds on weed seeds. W. V.

80.

PURPLE FINCH.

6 in. *Not purple* but dull rose-red *brighter on head and rump*; whitish below; thick bill; tuft of bristly feathers over nostrils; tail notched. Female resembles the sparrows. M. Nests from Minnesota north, usually in evergreens. The Purple Finch is the nearest relative the English Sparrow has here.

81.

SNOWFLAKE: Snow Bunting.

7 in. Male in winter: head, neck and rump and also below, white washed with rusty; back, wings and tail white with greater part of primaries and 4-6 middle tail feathers black. Easily distinguished from the other sparrows by the large amount of white. D. W. in northern part of state except in open winters. Nest on ground in the Arctic regions on both the American and Siberian sides, and if there is land at the pole the snowflake is in all probability nesting there, too.

82.

AM. RED CROSSBILL.

6 in. Dull red all over; tinged with brownish; wings and tail darker; *tips of mandibles crossed*. Females more greenish. Rather rare and erratic. Seen in flocks generally about pine trees.

83.

CARDINAL: Redbird.

8 in. *Whole body red, including bill* but excepting black chin and around base of bill; both sexes distinctly crested. Both male and female are singers. Occasionally seen in southern to central part of the state. Winter resident. Nest in bushes.

84.

EVENING GROSBEAK.

8 in. Yellow; crown wings and tail black; white patch on wings; *bill stout*. Females brownish and duller. W. V. Breeds from Manitoba north.

85.

MEADOWLARK.

11 in. Brown: back and sides streaked with black; breast and throat bright yellow, but the yellow *not encroaching on cheeks*; black crescent; outer tail feathers white. Flies straight, hovering before alighting. Song "Spring o' the year." See Flicker and Dickcissel. S. V. Common in grassy fields.

86.

WESTERN MEADOWLARK.

9 in. Brown; back and sides streaked with black; *yellow of throat spreading over cheeks*; outer tail feathers white. Flies straight, hovering before alighting. The difference in song between this and the regular meadowlark is very noticeable. It is a S. V. and in many counties is as common as the regular. Food mainly grasshoppers.

87.

BALTIMORE ORIOLE.

7½ in. Bright orange above and below; head, neck, back, wings and part of tail, black; some white on wings; female, olive brown above: yellowish below. S. V. Rather common, probably because the nest, a neatly woven hanging basket, is out of reach of cats. See Orchard Oriole and the Tanagers.

88.

ORCHARD ORIOLE.

7 in. Rich chestnut; head, throat, upper back, part of wings and end of tail, black; female, dusky green above and greenish yellow below with two white wing-bars. Has a beautiful song. S. V. Nest placed in upright forks near tops of small trees and composed largely of grass which often retains its green color.

89.

BOBOLINK: Reedbird: Ricebird.

7 in. Black; shoulders and rump white; *nape cream buff*. Song long, musical and distinctive and continued without interruptions from singer's actions perching or flying. Stops singing after incubation season. Females and young and, in the fall, the males also, are like sparrows. S. V., coming late. Nest in damp meadows. Needs protection.

90. BRONZED GRACKLE: Crow Blackbird.

13 in. Iridescent black. Female duller. Feeds mostly on the ground. Congregates in bustling troops, especially in the fall. S. V. Nest preferably in evergreens, probably because made early and before the other trees have leafed out. See Rusty Blackbird and Crow.

91. COWBIRD.

8 in. Metallic black; head and neck glossy dark brown; Female dark grayish brown, lighter below. A herd of cattle is seldom seen in summer without a number of these birds gratifying them by searching their backs for parasites. Polygamus. Makes no nest but lays its eggs in the nests of other birds. S. V.

92. RED-WINGED BLACKBIRD.

9 in. Black; *scarlet below shoulders of wings*, shading to yellowish white. Females smaller; brownish above; below, whitish, noticeably streaked; often more numerous than the males, in which case some of them are polygamus. S. V. Nest in reeds or bushes in marshy places. Migrates in flocks with other blackbirds.

93. YELLOW-HEADED BLACKBIRD.

10 in. Black; *head and breast yellow; white spot on wings*. Poor singers. Females smaller; brownish without wingpatch. S. V.. Common in northern part of the state. Nests in reeds or brush in marshy places.

94. RUSTY BLACKBIRD.

9½ in. Same as Redwing, except without the scarlet epaulettes; eyes whitish. In fall feathers are uniformly tipped with rusty; other parts tipped with buffy. Notes more musical than those of other blackbirds. Not nearly so common as the Red Winged Blackbird. M.

THE CROWS AND JAYS (CORVIDÆ)

95.

BLUE JAY.

12 in. Blue with grayish cast above; under parts whitish, somewhat dusky; a black band across back of head; black down the neck and across the breast; tail tipped with white; head crested. C. R.

96.

CROW.

19 in. Black all over; somewhat iridescent on close inspection in high plumage. Occasionally a conspicuous albino or white specimen is seen. Common R. Nest in timbered tracts. Its old nests are frequently used by hawks or owls.

THE LARKS (ALAUDIDÆ).

97.

PRAIRIE HORNED LARK.

7 in. Light grayish-brown above; line over eye white; throat barely yellow; cheeks and tuft on either side of head black; *black band on upper breast*; below whitish; *hind claw very straight*. Found on the ground in fields early in the spring. Has a tinkling note. Nests very early.

THE FLYCATCHERS (TYRANNIDÆ).

98.

KINGBIRD.

8½ in. Blackish; white below with grayish breast; concealed orange spot on head; *tail tipped with band of white*. Darts at flying insects but does no real damage around beehives as supposed. Fights other birds, especially hawks and crows. C. S. V. Nest in trees or bushes, preferably thorn or osage orange.

99.

PHOEBE.

7 in. Grayish brown; crown darker; whitish below; bill and feet black; tail drooping but jerking constantly. Darts at passing insects. Call, "phoe-be." Nest of moss and mud placed on beams in barn or under bridges, etc. S. V., returning to same places. See Wood Pewee and Least Flycatcher.

100.

WOOD PEWEE.

6½ in. Dark olive-brown; darkest on wings and tail; below, whitish; two narrow white wing-bars. Call "Pee-Wee." S. V. Nest well made and saddled to a limb 20 feet of more up.

101.

GREAT-CRESTED FLYCATCHER.

9 in. Olive-gray; head crested; *throat and breast gray; belly yellow; tail shows reddish in flight.* Common S. V. Usually whistles from a tree top. Nest in holes in trees; uses cast off snake skins in the nest.

102.

TRAILL'S FLYCATCHER.

6 in. Olive brown with greenish cast; wings and tail dusky with two brownish bars; below white on throat, dusky on breast and sides, and yellowish on belly. E. S. V. Nest in alder patches.

103.

ACADIAN FLYCATCHER.

6 in. Olivaceous above; wings and tail brownish; wings with two *conspicuous yellowish buff bars.* Below pale yellowish white. E. S. V. Nest a very loosely constructed structure often containing catkins.

104.

LEAST FLYCATCHER.

5½ in. Brownish olive; grayish below, darker on breast and sides; wing-bars ashy white; jerks its tail. Identified easiest by snappy call "che-beck, che-beck."

105. YELLOW-BELLIED FLYCATCHER.

5½ in. Olive-green; tail and wings dark brown; yellow below, brightest between legs. The most yellow of the flycatchers. Migrant, though summer visitor in northern part of state.

THE HUMMINGBIRDS (TROCHILIDÆ).

106. RUBY-THROATED HUMMINGBIRD.

3 in. Bright metallic green; throat of male, *ruby red*. Darts from flower to flower, poising in mid-air. S. V. Nest resembles knot or enlargement of branch on which it is built. Eggs, two, white. Sphinx moths are sometimes mistaken for this bird.

THE SWIFTS (MICROPODIDÆ).

107. CHIMNEY SWIFT.

5½ in. Dark sooty gray; throat grayish; bob tail with short spines; always on the wing; cannot perch; roosts and nests in caves or hollow trees, but sometimes hundreds stay in a single chimney. Cigar shaped body, with backward curved wings. Common S. V. Nest of twigs glued to inside of chimney by secretion from the mouth of the bird. Eggs white. See Swallows.

THE GOATSUCKERS (CAPRIMULGIDÆ).

108. NIGHTHAWK: Bull-bat.

10 in. Blackish with mottlings of white, buff and brown; throat with white collar, barred below with black and white. This bird is seen flying overhead after insects and *shows a conspicuous white spot on its long pointed wings*. Roosts on ground in fields or in the woods on trees perching *lengthways* of the branch. Very common S. V. Not a hawk at all, but a very useful insect eater.

109. WHIP-POOR-WILL.

10 in. Wood-brown mottled; lighter below; *white band across breast*; outer tail feathers with white; calls its name "whip-poor-will, whip-poor-will," but calls and feeds only between sunset and sunrise; feeds on low flying insects. Roosts during day time lengthwise of a branch or on the ground. Lives in bushy fields or in the woods generally near water. C. S. V.

THE WOODPECKERS (PICIDÆ).

110. RED-HEADED WOODPECKER.

10 in. Head, neck and upper breast *crimson red*; black above; *rump and part of wings opposite rump, white*; white below; *shows much white in flight*. Female same size and color. R. Nest in holes made in decaying wood. See Red-bellied Woodpecker.

111. GOLDEN-WINGED WOODPECKER: Flicker: Yellow-hammer.

12 in. Brownish, barred with black; below lighter, spotted with black; *scarlet patch on nape; black crescent on breast*; black on sides of throat. *In flight shows white rump, also yellow under wings and tail*. Frequently in flocks. Some remain through the winter. S. V.

112. HAIRY WOODPECKER.

9 in. Black, spotted and striped with white; one broad white stripe down the back; *red band on back of head of male*; outer tail feathers white, not barred; note a sharp pleek and screaming rattle. R. See also Downy and Yellow-bellied Woodpecker.

113. DOWNY WOODPECKER.

6½ in. Black, spotted and striped with white; one broad white stripe down the back; *scarlet band on back of head of male*. Outer tail feathers white barred with black. Note a sharp pleek and screaming rattle. Note that the Hairy is Robin size and the Downy is Sparrow size. C. R. See Hairy Woodpecker.

114. YELLOW-BELLIED WOODPECKER Yellow-bellied Sapsucker.

8½ in. Black, abundantly spotted with white; distinctly yellowish below; *crown and throat scarlet; black crescent on breast*. (*Very variable in markings*). Female similar but with throat white. Harsh squeaking note. S. V.

115. RED-BELLIED WOODPECKER.

9½ in. Black, *barred with white*; below grayish white, slightly tinged with red; *crown and nape, scarlet*. Female, crown gray. R. Rather rare.

116. PILEATED WOODPECKER.

17 in. Blackish brown; *head and crest scarlet*; neck and sides *streaked with white*; nest in higher tree branches. Formerly common but now almost exterminated in this state. R. Only found where there is heavy timber in large tracts.

THE KINGFISHERS (ALCEDINIDÆ).

117. BELTED KINGFISHER.

13 in. Bluish-gray; white below with *bluish-gray breast-band or belt*; white collar; *long bill*; *crested head*; perches near water and watches for fish. Cry resembles old watchman's rattle. C. S. V. Nest at end of a hole excavated four to six feet in a clay or sand bank. See Blue Jay.

THE CUCKOOS (CUCULIDÆ).

118. YELLOW-BILLED CUCKOO.

12 in. Glossy olive brown; white below; *bill curved*; *lower mandible yellow*; wings black, showing brownish tinge in flight; *tail long*, black with outer tail feathers *broadly* tipped with white; glides stealthily from tree to tree, keeping concealed. Destroys immense numbers of tent and other caterpillars. S. V. See also Black-billed Cuckoo and Mourning Dove.

119. BLACK-BILLED CUCKOO.

12 in. Glossy olive-brown; dull white below; *bill curved*; *both mandibles black*; wings black showing little or no brownish tinge in flight; tail long and black with outer tail feathers only *slightly* tipped with white; habits same as the Yellow-billed, but its call is much softer. S. V. See also Mourning Dove.

THE OWLS (BUBONIDÆ).

120.

SCREECH OWL.

9 in. Small; ear tufts conspicuous. Two distinct phases of this owl: red and gray. Gray phase: two white bars on wings; above mottled grayish with black shafts to feathers; blotched and streaked with dark below. Red phase: rust red with little of the black mottling showing above; below black stripes and blotches. Food, small animals and birds.

121.

BARRED OWL.

20 in. Grayish brown above mottled with white. Below buffy white barred on breast and streaked on belly with brown. The only owl we have that has black instead of yellow eyes. Found in bottom lands along rivers. C. R. Nest in hollow trees.

122.

GREAT HORNED OWL: Cat Owl: Hoot Owl.

23 in. Large. Ear tufts conspicuous; white collar on throat; above under plumage tawny, overlaid with blackish and white mottling; seven to nine bars on wings and tail. Beneath white and tawny with cross bars of blackish. Feet feathered, tawny. R.

123.

LONG-EARED OWL.

15 in. Brownish black mottled with white showing buffy in places; ear tufts long and prominent. Below mottled buffy white barred with dull black; tail with lighter and dark bands; eyes yellow. The most nocturnal of our owls. A tireless mouser and invaluable to the agriculturist. C. R.

124.

SHORT-EARED OWL.

15 in. Buffy ochre above; ear tufts scarcely noticeable. Below whitish and buffy with streaks of brownish yellow; eyes yellow. Found in marsh lands and sloughs where there is long grass. Hunts by day or in the twilight. The most diurnal of our owls. Very useful because of the rodents it destroys. C. R.

125.

SNOWY OWL.

25 in. White; barred in varying amount with black; feet feathered so much as to conceal the claws; no ear tufts; eyes yellow. Quite dismal in habits. W. V. Not common.

THE FALCONS (FALCONIDÆ)

126.

BALD EAGLE.

35 in. Brownish, with *white head, neck and tail.* Not feathered on toes. Young without white. Feet and bill yellow. Female larger. Migrant.

127.

GOLDEN EAGLE.

35 in. Dark brown; lighter on back of neck and legs; tail banded with gray. *Feathered to the toes;* female larger. Migrant.

128.

SWALLOW-TAILED KITE.

24 in. White, with back, upper part of wings and tail glossy black; tail very deeply forked. Not like any other of our hawks. It appears like a large swallow. Feeds on insects, reptiles and frogs.

129.

OSPREY: Fish Hawk.

23 in. Brownish above; *head neck, and underparts white.* Tail short with white tip and narrow black bands. Feeds on fish and is seen near the rivers and lakes.

130.

RED-TAILED HAWK.

21 in. Blackish brown mottled; *tail rufous with black band near tip*. Below whitish, usually rusty on the breast. Young: tail gray with many dark bars, white beneath with dark band across the belly. Common resident.

131.

SPARROW HAWK.

10 in. *Rufous above*; wings and crown slaty blue. Below whitish and rufous, spotted with black. Two black stripes on sides of head. Female without blue. Common S. R.

132.

PIGEON HAWK.

11 in. Bluish gray above with fine black lines; below, whitish or rusty with distinct heavy stripes. Female brownish instead of bluish and lighter below.

133.

COOPER'S HAWK.

17 in. Grayish above; crown blackish; below barred with white and reddish brown; tail long but rounded at the end. A chicken thief and a thoroughly vicious character, bringing reproach on his decent neighbors.

134.

SHARP-SHINNED HAWK.

12 in. Slaty gray above; black bars on wings; below barred with white and reddish buff; tail long banded and nearly square. In young birds the upper parts are mottled with reddish buff. Feeds on sparrows largely. A hawk with a bad reputation.

135.

[MARSH HAWK.

19 in. Gray above in the male, rufous in the female. In any case this *slim, long-tailed hawk with noticeably white rump* is not easily mistaken. Below, male gray on breast and white on belly with reddish bars. Female yellowish buff below with fuscous streaks. Nest on ground in marshy places or brushy hillsides.

136.

BROAD-WINGED HAWK.

15 in. Brownish above; wings and tail darker; tail banded with grayish and tipped with white. Below grayish with darker spots. S. R.

137.

RED-SHOULDERED HAWK.

20 in. Dark brown, mottled with lighter; *conspicuous reddish shoulder patch*. Tail blackish with lighter bars and tip. Below rufous barred with white. S. R.

138.

ROUGH-LEGGED HAWK.

21 in. Grayish brown above mottled with tawny; tail with base and upper tail coverts white and *broad black band*; tips of wings appear blackish in flight; below whitish spotted with brownish. Young with broad black band across belly; *legs feathered to toes*. Migrant and winter visitant.

139.

TURKEY VULTURE: Buzzard.

29 in. Blackish with metallic gloss and mottled with brown. *Head and neck naked*; below dull black. Often seen sailing with motionless wings at a great height. Feeds on carrion. S. R.

THE DOVES (COLUMBIDÆ).

140. MOURNING DOVE: Turtle Dove.

12 in. Soft brown; paler below; small black mark below ear; sides of neck with metallic pink reflections; black spots on wings; tail shows black and white border in flight; gregarious in the fall; flies like a pigeon; call "Coo-coo," uttered slowly. S. V. Nest very flimsy on lower branches of trees or on ground.

141. PASSENGER PIGEON.

16 in. Rich slaty bluish in iridescent shades; deep pinkish below. S. V., but very rare. Nest like that of Mourning Dove with one or two eggs at each setting.

THE FOWLS (TETRAONIDÆ).

142. BOB-WHITE: Quail.

10 in. Reddish brown, streaked and barred with black; white throat; white line over eye; black patch on breast. Female similar, except throat and line over eye, buff. Call, "bob-white." R. Common in many sections. These birds are of immense value to the farmers and ought to be better protected.

143. PRAIRIE HEN.

18 in. Ash gray, barred; below, whitish, barred. Males have slender dark neck tufts. They make loud booming sound in spring. R. Becoming less numerous. Nest on ground.

144. RUFFED GROUSE.

17 in. Dull, reddish brown, barred and mottled with black; crested; tail with broad dark band near end; large black neck tufts. Females have small neck tufts. Males make loud drumming noise which may be heard in the woods in the spring. R. Most common in rocky timbered valleys along streams. It would again be abundant if favored with closed season for a few years.

THE PHEASANTS (PHASEONIDÆ).

145.

WILD TURKEY.

48 in. Resembles domestic turkey, except that tips of upper tail coverts and tail are chestnut instead of white. P. Formerly quite common but now about exterminated. Some reserve should be restocked with them and the birds protected.

THE PLOVERS (CHARADRIIDÆ).

146.

KILLDEER PLOVER: Killdeer.

10 in. Olive-brown with feathers edged with lighter; *wings with considerable white; rump reddish*; below white; two *black bands across lower neck or upper breast*, the white above the upper black band extending completely around the neck; white stripe over eye; bill black; legs greenish. C. S. V.

147.

BELTED PIPING PLOVER.

7 in. Above pale ashy; some white on wing coverts; forehead white with black bar above; below, white; *one black band across lower neck above which the white forms a white band completely around the neck*; bill very short, *yellow with black tip*; legs yellow. An A. M., found along sandy beaches and around flats, often in pairs but seldom in flocks.

THE STILTS, ETC. (RECURVIROSTRIDÆ).

148.

AMERICAN AVOCET.

17 in. Back, tail and underparts white; wings black, with two white bands; *head and neck cinnamon red in breeding season*, and grayish white in fall and winter; *bill long, black and with point turned upward*; legs greenish yellow. Rare S. V.

THE PHALAROPES (PHALAROPODIDÆ).

149.

WILSON'S PHALAROPE.

9 in. Crown and upper parts ashy; dark chestnut line from bill extending through eye and over side of head and neck, shading to duller to the rump; white below, shaded on sides of neck and upper breast to pale chestnut. The female is larger and much handsomer than the male, who does most of the incubation and the caring for the young. D. M.

THE SNIPES, SANDPIPERS (SCOLOPACIDÆ).

150. WILSON'S SNIPES: Jack Snipe.

10 in. Above, brown and buff mottled; *a paler longitudinal stripe on sides when wings are closed*; crown buff, edged with black stripe; neck and breast spotted and streaked; sides barred; belly white; bill long and widened near end. A bird of low, marshy land, recognized by its "*scaape, scaape*," uttered when startled, and its zigzag flight. A. M.

151. WOODCOCK.

11 in. Rufous brown, above mottled; two light bars on back of head; below, plain pale brown; *eyes set near top of head*; bill long with upper mandible the longer. In low brushy swampy places. D. S. V., but in danger of extermination by spring and summer shooting.

152. SPOTTED SANDPIPER.

7 in. Brownish gray above; *white below with round black spots*; bill flesh colored with dark tip. Recognized by its "*peet, peet*," uttered as it skims along the banks of streams and lakes when flying. C. S. V. Nest a mere hollow in the ground.

153. PECTORAL SANDPIPER: Grass Snipe.

9 in. Above a mottled brownish buff and black; breast grayish and darkly streaked; bill slightly recurved. Found in grassy meadows. E. M.

154. LEAST SANDPIPER.

6 in. Brown and rufous mottled; lower throat and sides washed with dusky and streaked with brownish; belly and flanks white. Found on sandy or muddy shores. A. M.

155. LESSER YELLOW-LEGS SANDPIPER.

11 in. Brownish gray above, spotted on back and streaked on sides with whitish; streaked on head and neck with black and white; below, white; lower throat and sides washed with ashy and streaked with brownish; bill black. On sandy or muddy shores. C. M.

156. BARTRAMIAN SANDPIPER: Upland Plover.

12 in. Blackish above streaked with buff lightest on wings and back of neck; below, tawny white; breast and flanks deeper and streaked with dusky; lining of wings, white, barred with black; *tail long for a sandpiper. Raises its wings over back after alighting.* Found on meadows and prairies.

157. BAIRD'S SANDPIPER.

7 in. Above spotted and streaked with brownish black and buffy; below, pure white with breast buffy, streaked with brownish; bill short, black; legs black.

158. SEMIPALMATED SANDPIPER.

6 in. Black or blackish brown above, streaked with a little gray and reddish; breast white, faintly streaked with black; chin, belly and sides white; legs black. Less common than the Least, from which distinguished by basal web between front toes.

159. GREATER YELLOW-LEGS SANDPIPER.

14 in. Black above, streaked on head and neck and spotted on back and wings with whitish; below light, *spotted on breast and barred on sides with black*; lighter in fall and winter; legs long, yellow. Not so common as the Lesser, from which different only in size.

THE CRANES (GRUIDÆ).

160.

SANDHILL CRANE.

44 in. Brownish gray, never whitening; wings darker; head nearly naked, brownish red sparsely covered with blackish bristles. Sometimes in small migrating flocks, but usually in pairs, and generally in prairie or treeless marsh where they can see approaching danger. M. & F. S. V.

THE RAILS (RALLIDÆ).

161.

AMERICAN COOT: Mudhen.

15 in. Dark slate; slightly lighter below; *brownish frontal shield; bill long, stout, white.* On rivers and sloughs, and *known by a jerky head motion while swimming.* Nest usually on grass stems on the water. C. S. V.

162.

SORA RAIL: Carolina Rail.

8½ in. Olive-brown above with *many white lines on back and wings*; crown and base of bill blackish; blackish stripe down back of neck; below, bluish gray, barred on sides with black; under tail coverts white; tail held erect; bill short. Common, but rarely seen, as it skulks under cover.

163.

VIRGINIA RAIL.

9 in. Blackish above with brownish; sides of head bluish-gray; throat grayish; wing with large rufous patch; below, reddish brown; flanks black, barred with white; *bill long, slightly curved.* Common, but like the Sora, rarely seen.

164.

FLORIDA GALLINULE: Red-billed Mudhen.

13 in. Back and wings brownish; darker on neck and blackish on head; under tail coverts and edge of wings white; white streaks on flanks; *bill and frontal shield red.* Common S. V.

THE HERONS AND BITTERNs (ARDEIDÆ).

165. GREEN HERON: Shide Poke.

17 in. Greenish black above; *sides of head chestnut*; neck chestnut with white streak down front to lower breast; long plumes on crown and back; *belly dusky*. Common S. V. along creeks. Nest a platform of sticks, usually in the low, thick trees near water.

166. LEAST BITTERN.

13 in. Crown, back and tail glossy black; sides of head and back of neck reddish-chestnut; *wings and underparts buffy*; blackish spot on each side of breast. A quiet, retiring bird, fond of reedy, grassy sloughs and lakes.

167. AMERICAN BITTERN.

28 in. Above, rusty buff broadly striped with dusky; *a velvety black stripe along jaw*; feathers coarse and long; below, creamy, striped with light brown. A bird oftener heard than seen. Makes a sound like the driving of a stake with a mallet. whence its name of Stake Driver. Nest on ground.

168. GREAT BLUE HERON.

46 in. *Bluish or slate colored; crown white in center, bordered by black; edge of wings chestnut*; below, black and white streaks; bill yellowish; legs black. In breeding season, crest has two or more slender white plumes. The largest of the Iowa Herons. Shy birds usually seen in flight or wading in secluded lakes and streams.

169. BLACK-CROWNED NIGHT HERON.

20 in. *Bluish gray above, with black back and crown*; white line across forehead; white below; crown has two or more long white plumes. Night feeders, gregarious in nesting and roosting places. Localized.

SWANS, GEESE AND DUCKS (ANATIDÆ).

170.

WHISTLING SWAN.

55 in. White above and below; feet and bill black; small *yellow spot in front of eye*. Rather rare migrant. Nests in the far north.

171.

TRUMPETER SWAN.

65 in. White all over except bill and feet, which are black; *no yellow spot in front of eye*. Formerly nested in northern Iowa. Rare.

172.

CANADA GOOSE.

40 in. Grayish brown above; tail, neck and head black, with large white patch behind eye and on throat; *below, grayish, fading to white on belly*. Common migrant.

173.

WHITE-FRONTED GOOSE.

28 in. Grayish brown above; feathers on the back lighter edged; about base of bill white; *breast mottled with black; white on belly*. Common migrant.

174.

SNOW GOOSE.

35 in. White above and below; *wings with black flight feathers*, the rest grayish. Common migrant. Can be identified in flight by the black wings.

175.

MALLARD DUCK.

23 in. Dark grayish brown above; *head iridescent green*; a white collar on neck; *breast rich chestnut*; belly whitish; under tail black; a curl in the feathers of upper tail coverts. Female streaked above and spotted below with brown and buff; purple spot, bordered with black and white on wing. Common resident.

176.

BLUE-WINGED TEAL.

16 in. Black and buffy on back; a white crescent in front of eye; below, rufous with black spots; *shoulders of wings distinct light bluish*; a green spot on the wing. Female quite plain brownish and grayish. An abundant resident.

177.

GREEN-WINGED TEAL.

14 in. Brownish gray above; head and neck bright reddish chestnut, *the sides of the head with a broad green stripe*; breast lilac with black spots; belly white; *white bar in front of wing*.

178.

PIN-TAILED DUCK.

28 in. Grayish brown above, somewhat streaked; a white stripe bordered with black on each side of neck; breast and belly white; a green patch on wing; *tail with long central feathers*. An abundant early spring migrant and common resident.

179.

SHOVELER DUCK.

20 in. Blackish brown; head greenish; lower neck and breast white; breast and belly rich chestnut; shoulders of wings grayish blue; a green spot on wings; *bill very broad and flat*.

180. BALDPATE DUCK: Am. Wigeon.

12 in. Grayish brown on back; a lilac tint to sides, neck and breast; below, white; crown whitish, bordered with a greenish stripe on sides of head. A common migrant.

181. WOOD DUCK.

Greenish brown above; belly white; breast chestnut, spotted with white; *head conspicuously crested and iridescent greenish in color*; line over the eye; throat and two perpendicular lines on side of head white; white line in front of wings. The most beautiful of all our ducks. Nests in hollow trees. S. V.

SUB-FAMILY: THE SEA DUCKS. (FULIGULINÆ).

182. LESSER SCAUP DUCK: Bluebill: Blackhead.

16 in. *Black on head, neck and breast*; back, with wavy black and white lines; belly and lower breast white; white spot on wings. Female brownish, with white at base of bill. An abundant migrant and common resident. Bill blue with black nail.

183. RING-NECKED DUCK.

17 in. Black on back, head, neck and breast; *a faint chestnut collar on neck*; below white; base of bill and band across middle, ivory white; spot on wings, gray.

184. BUFFLE-HEAD DUCK: Butter Ball.

15 in. *Black back and head with broad white band passing around the nape from eye to eye*. Neck and under parts with parts of the wings white; tail grayish. A beautiful little duck and expert diver. Common migrant; a few doubtless breed in Iowa.

185.

RUDDY DUCK.

15 in. *Chestnut red above; crown black; cheeks and chin white; below silvery white; tail stiff and bristly, often held erect. Rivaling the grebes in diving. Summer visitor.*

186.

REDHEAD DUCK.

19 in. Back and sides barred white and black; neck and breast black; *head reddish glossy; wings gray above; belly white; forehead rises at an angle from the bill. Common migrant.*

187.

CANVAS-BACK DUCK.

21 in. Back grayish, barred with black and white; breast and upper back black; *head and neck reddish brown; belly white; forehead and bill almost in a straight line. Common migrant.*

SUB-FAMILY: THE FISH DUCKS (MERGINÆ).

188.

HOODED MERGANSER.

18 in. *Black on back, head and neck; head conspicuously crested, back half of crest white; below white; sides reddish, barred with black. A striking black and white duck. A skillful diver. S. V. Female brownish, crested.*

189.

RED-BREASTED MERGANSER.

22 in. Greenish black above; white collar; *broad cinnamon breast band with black streaks; below white; a white bar on wings. May possibly breed in Iowa. Common migrant.*

THE PELICANS (PELECANIDÆ).

190.

WHITE PELICAN.

60 in. White above and below; large wing feathers black; head crested; bill in breeding season with a horny knot; *a large pouch of bare skin hanging from lower bill*; feet yellow; all toes fully webbed. C. M.

THE CORMORANTS (PHALACROCORACIDÆ).

191.

DOUBLE-CRESTED CORMORANT.

30 in. Glossy black; wing coverts and part of back grayish, margined with black; head with tuft of feathers on each side; eyes green; *bill hooked at tip*; all the toes webbed. C. M.

THE GULLS (LARIDÆ).

192.

FRANKLIN'S GULL.

14 in. Pearl gray on back and wings; *head and upper neck black; below white with faint rosy tinge*; lower neck, wing lining and square tail, white; wings black and white at tip. Common migrant.

193.

RING-BILLED GULL.

19 in. Pearl gray on back and wings; elsewhere pure white except on large wing feathers, which are black and white; *bill yellowish, with black band near the middle*. Young mottled with dark brown and whitish; tail with conspicuous black band. C. M.

194.

HERRING GULL.

24 in. Dark pearl gray on back and wings; elsewhere white, except black and white on wing tips. Young, brownish and white; tail without noticeable bars. The largest of our Iowa gulls. C. M.

THE TERNS (STERNINÆ).

195.

BLACK TERN.

10 in. *Black on head and underparts; white beneath tail; back, wings and tail, slaty gray; black feet and bill. Young, whitish. Nest in sloughs. Abundant resident.*

196.

CASPIAN TERN.

21 in. Pearl gray on back and wings; whole top of head glossy black; neck and under parts white; *bill red, dark at tip; feet black; tail forked.* C. M.

THE LOONS (GAVIIDÆ).

197.

LOON: Great Northern Diver.

32 in. Black above, glossy; white patch striped with black on throat and each side of neck; *back and wings spotted with white; white below; tail short; legs far back on body; three toes webbed; marvelous diver.* S. V.

THE GREBES (PODICIPIDÆ).

198.

PIED-BILLED GREBE.

14 in. Brownish black above; black spot on throat; neck, breast and sides of body brownish, faintly mottled with black; white beneath; *black band near middle of bill.* Female brownish. C. S. V.

199.

AMERICAN EARED GREBE.

13 in. Brownish black, darker on head and neck; *sides of head with tawny tufts; large wing feathers, chocolate brown; below silky white; breast and sides washed with reddish brown.* S. V'.

REPORTS ON 300 IOWA BIRDS

The abbreviations used as to seasons are as follows: R., Resident, remaining the entire year; S., seen only in Summer; W., seen only in the Winter; M., seen only in Migration.

The abbreviations or signs as to relative abundance are as follows: A, abundant; C, common; D, rather common; E, rather rare; F, rare, very few; G, straggler or accidental visitor, gone out of its range.

Many birds of accidental occurrence in the state are not included. There are also some species known to nest in Minnesota or Manitoba and to winter in the South, and are therefore presumed to pass through the state in migration, but which are not recorded as having been seen within the state.

In this list the same order of the families and species is followed as in the bird descriptions, namely: by commencing with the thrushes and ending with the grebes.

The numbers given are the numbers of the descriptions and those not described in this book are lettered (a), (b), (c), etc.

The scientific names are as used at this date by the American Ornithologists' Union. This organization appointed a committee in 1888, and which is still acting, to revise the scientific names of the birds. Wherever it is found that the same species has had more than one name given to it they make the one earliest used to apply exclusively. For instance: the American Crow has for many years been known universally by the name of *Corvus americana*, but it is found that at an early date there was a record made of this bird under the name of *Corvus brachyrhynchos*, and as this name antedates the other it is made the only correct one. As this authority of the A. O. U. is recognized throughout the world, this book may be used for the correcting of the scientific names in all the other bird books now used.

The numbers following the scientific names are the numbers under which the same species are found in the check list of the A. O. U.

At the tops of the narrow columns are found the names of ten representative localities in the state. Abbreviations are placed in the columns opposite the names of such species as are known by the reporter to occur in such locality.

The data given in the column headed Iowa City is for Johnson County, and is furnished by Mr. R. M. Anderson by solicitation of Prof. C. C. Nutting of the State University.

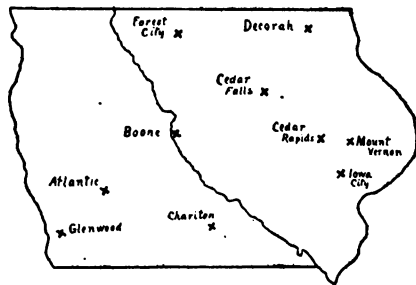
The data for the vicinity of Mt. Vernon is furnished through the kindness of Prof. Chas. R. Keyes of Cornell College.

In the Cedar Rapids column the data is for Linn County by Mr. Geo. H. Berry, from his own personal observations. He is well posted on the subject, spending most of his time in the field.

Cedar Falls is represented by Prof. M. F. Arey of the State Normal School.

The Decorah correspondent is Mr. Rett C. Olmstead, a lecturer on bird life.

The Forest City data is for Winnebago County by Mr. R. M. Anderson, formerly of that place but now with the State University.



The map herewith given shows where the respective localities mentioned are situated.

For Boone or Boone County the data is furnished by Mr. Carl Fritz Henning, a careful observer.

Under Atlantic we place the data furnished for Cass County by Frank C. Pellett, now residing in Missouri.

Glenwood is the heading selected by us for the data furnished for Mills and Pottawattamie Counties by Dr I S Trostler, now also out of the state.

The data in the Chariton column was given for Wayne and Lucas Counties by A. J. Brown.

Under the title of "Earliest and Average Dates First Seen After March 1st" are data from the field work of a class in the high school of Cedar Rapids, during the spring migration of the years 1902, 3, 4 and 5. The class is that of Prof. John E. Cameron, who is also a lecturer on the subject of birds. In the Southwestern part of the state the birds come some days earlier, and in the Northeastern part a few days later.

	Iowa City	Mount Vernon	Cedar Rapids
ORDER.—PERCHING BIRDS (PASSERES).			
FAMILY, THE THRUSHES (TURDIDÆ).			
0 Robin (<i>Merula migratoria</i> 761)	A S	A S	A S
1 Bluebird (<i>Sialia sialis</i> 766).....	C S	A S	C S
2 Thrush, Wood (<i>Hylocichla mustelina</i> 755).....	C S	C S	D S
3 Hermit (<i>H. guttata pallasii</i> 759b).....	CM	DM	CM
4 Wilson's (<i>H. fuscescens</i> 756).....	DM	DM	DM
5 Olive-backed (<i>H. ustulatus swainsoni</i> 758a).....	CM	AM	DM
(a) Alice's (<i>H. alicæ</i> 757).....	CM	DM	EM
THE WARBLERS (SYLVIIDÆ).			
6 Kinglet, Ruby-crowned (<i>Regulus calendula</i> 749).....	CM	CM	CM
7 Golden-crowned (<i>R. strapa</i> 748).....	CM	CM	AM
8 Gnatcatcher, Blue-gray (<i>Poliophtila cærulea</i> 751).....	E S	D S	F S
THE TITMICE (PARIDÆ).			
9 Chickadee (<i>Penthestes atricapillus</i> 735).....	AR	AR	CR
(a) Carolina (<i>P. carolinensis</i> 736).....	-----	-----	-----
(b) Titmouse, Tufted (<i>Bæolophus bicolor</i> 731).....	FM	-----	-----
THE NUTHATCHES (SITTIDÆ).			
10 Nuthatch, White-breasted (<i>Sitta carolinensis</i> 727).....	CR	CR	CR
11 Red-breasted (<i>S. canadensis</i> 728).....	EM	DM	CM
THE CREEPERS (CERTHIIDÆ).			
12 Creeper, Brown (<i>Certhia familiaris americana</i> 726).....	CM	CM	CM
THE MOCKERS (MIMIDÆ).			
13 Catbird (<i>Galeoscoptes carolinensis</i> 704).....	A S	A S	A S
14 Mockingbird (<i>Mimus polyglottos</i> 703).....	-----	-----	-----
THE THRASHERS (TOXOSTOMÆ).			
15 Thrasher, Brown (<i>Toxostoma rufum</i> 705).....	A S	A S	A S
THE WRENS (TROGLODYTIDÆ).			
16 Wren, Western House (<i>Troglodytes ædon park manii</i> 721a).....	A S	C S	C S
17 Prairie Marsh (<i>Telmatodytes palustris iliacus</i> 725a).....	E S	E S	D S
18 Short-billed Marsh (<i>Cistothorus stellaris</i> 724).....	E S	-----	E S
(a) Bewick's (<i>Thryomanes bewickii</i> 719).....	-----	-----	-----
(b) Carolina (<i>Thryothorus ludovicianus</i> 718).....	-----	-----	F S
(c) Winter (<i>Olbiorchilus hiemalis</i> 722).....	EM	DM	CM
THE WAGTAILS (MOTACILLIDÆ).			
19 Pipit, American (<i>Anthus pensilvanicus</i> 697).....	-----	-----	-----
THE WOOD WARBLERS (MNIOTILTIDÆ).			
20 Warbler, Yellow (<i>Dendroica æstiva</i> 652).....	A S	C S	A S
21 Yellow-rumped; Myrtle (<i>D. coronata</i> 655).....	CM	AM	AM
22 Black and White (<i>Mniotilta varia</i> 636).....	AM	CM	CM
23 Chestnut-sided (<i>Dendroica pensylvanica</i> 659).....	AM	CM	AM
24 Western Palm (<i>D. palmarum</i> 672).....	CM	CM	CM
25 Redstart, American (<i>Setophaga ruticilla</i> 687).....	C S	A S	A S
26 Chat, Yellow-breasted (<i>Icteria virens</i> 683).....	E S	D S	C S
27 Oven Bird (<i>Seiurus aurocapillus</i> 674).....	C S	C S	A S

Cedar Falls	Decorah	Forest City	Boone	Atlantic	Glenwood	Chariton	*Earliest and average dates first seen after March 1st	
AS CS S	AS AS CS ES	AS AS AM CM CM	AS CS DS DS EM	AS AS M	AS CS S	CS CS	Mar 1 Mar 1 Apr 6 Mar 4 May 10 Apr 14	Mar 2 Mar 5 Apr 12 Mar 19 May 14 Apr 22
M M	AM AM FS	AM AM	CM	M M M	W W S		Mar 21 Mar 20	Apr 1 Apr 3
CR FR	AR	AR	AR	AR M M	AR	CR DR	Mar 1	Mar 5
CR	AR EM	CR EM	DR FM	M	R	CR	Apr 14 Mar 2	Apr 23 Mar 10
CS	AM	AM	CM		R		Mar 5	Mar 25
AS	AS	AS	AS	AS GS	AS	CS FS	Apr 3	Apr 15
CS	AS	AS	AS	AS	AS	CS	Apr 4	Apr 16
AS S		AS AS DS	AS AS DM	AS	CS CS	CS	Apr 4 May 1	Apr 10 May 11
DS	EM	FM EM	EM		W		Apr 4	Apr 17
AS DS SS SS DS S	AS AM AS CM CS ES CS	AS AM AM AM CM CS DS	AS DM DM CS DS DS	S	AS S CS CS S	CS S AS CS CS	Apr 28 Apr 7 May 4 Apr 27 Apr 30 Apr 16 Apr 30	May 1 Apr 22 May 6 May 1 May 3 May 5 May 8

* Identifications by the Zoology Class of the Cedar Rapids High School.

		Iowa City	Mount Vernon	Cedar Rapids
28	Warbler, Blackburnian (<i>Dendroica blackburniae</i> 662).....	CM	CM	CM
29	Northern Yellow-throated (<i>Geothlypis trichas</i> <i>brachidactyla</i> 861a).....	ES	CS	CS
30	Wilson's (<i>Wilsonia pusilla</i> 685).....	CM	DM	DM
31	Magnolia (<i>Dendroica maculosa</i> 657).....	CM	CM	DM
32	Cerulean (<i>D. cerulea</i> 658).....		ES	DS
33	Blue-winged Yellow (<i>Helminthophila pinus</i> 641).....	EM	ES	ES
34	Prothonotary (<i>Prothonotaria citrea</i> 637).....	ES		FS
35	Blackpoll (<i>Dendroica striata</i> 661).....	CM	CM	CM
36	Canadian (<i>Wilsonia canadensis</i> 686).....	DM	EM	FM
37	Worm-eating (<i>Helminthos vermivorus</i> 639).....			FM
38	Pine (<i>Dendroica vigosii</i> 671).....	FM	DM	DM
39	Black-throated Green (<i>D. virens</i> 667).....	DM	DM	EM
40	Black-throated Blue (<i>D. caerulescens</i> 654).....		FM	FM
41	Cape May (<i>D. tigrina</i> 650).....	EM	EM	EM
42	Tennessee (<i>Helminthophila peregrina</i> 647).....	EM	CM	DM
43	Western Parula (<i>Compsothlypis americana</i> <i>ramalinae</i> 648c).....	EM	DM	DM
(a)	Hooded (<i>Wilsonia mitrata</i> 684).....			
(b)	Sycamore (<i>Dendroica dominica albilora</i> 633a).....			
(c)	Bay-breasted (<i>D. castanea</i> 660).....	EM	FM	DM
(d)	Prairie (<i>D. discolor</i> 673).....			
(e)	Mourning (<i>Oporornis philadelphia</i> 679).....	DM	EM	EM
(f)	Kentucky (<i>O. formosa</i> 677).....			
(g)	Connecticut (<i>O. agilis</i> 678).....		FM	FM
(h)	Golden-winged (<i>Helminthophila chrysoptera</i> 642).....	EM	DM	
(i)	Nashville (<i>H. rubricapilla</i> 645).....	FM	EM	DM
(j)	Water-thrush, Grinnell's (<i>Seiurus noveboracensis</i> <i>notabilis</i> 675a).....	CM		CM
(k)	Louisiana (<i>S. motacilla</i> 676).....		DS	EM
	THE TANAGERS (TANAGRIDÆ)			
44	Tanager, Scarlet (<i>Piranga erythromelas</i> 608).....	CS	DS	CS
(a)	Summer (<i>P. rubra</i> 610).....			
	THE SWALLOWS (HIRUNDINIDÆ).			
45	Martin, Purple (<i>Progne subis</i> 611).....	AS	DS	AS
46	Swallow, Barn (<i>Hirundo erythrogastra</i> 613).....	AS	CS	CS
47	Bank (<i>Riparia riparia</i> 616).....	CS	CS	AS
48	Cliff (<i>Petrochelidon lunifrons</i> 612).....	CS	CS	AS
49	White-bellied (<i>Iridoprocne bicolor</i> 614).....	CM	CM	DS
(a)	Rough-winged (<i>Stelgidopteryx serripennis</i> 617).....	DS	DM	DS
	THE WAXWINGS (AMPELIDÆ).			
50	Waxwing, Cedar (<i>Ampelis cedrorum</i> 619).....	CR	CR	CR
(a)	Bohemian (<i>A. garrulus</i> 618).....	FW		EW
	THE VIREOS (VIREONIDÆ).			
51	Vireo, Red-eyed (<i>Vireosylva olivaceus</i> 624).....	CS	CS	DS
52	Warbling (<i>V. gilvus</i> 627).....	CS	CS	CS
53	Bell's (<i>V. bellii</i> 633).....	ES	ES	DS
54	Philadelphia (<i>V. philadelphicus</i> 626).....	FM		EM
55	White-eyed (<i>V. noveboracensis</i> 631).....		ES	DS
56	Yellow-throated (<i>Lanius flavifrons</i> 628).....	ES	FS	ES
57	Blue-headed: Solitary (<i>L. solitarius</i> 629).....	DM		FM

Cedar Falls	Decorah	Forest City	Boone	Atlantic	Glenwood	Chariton	*Earliest and average dates first seen after March 1st	
-----	DM	CM	-----	-----	-----	-----	May 5	May 10
S	AM	AS	-----	-----	CS	-----	May 1	May 10
S	AM	CM	DM	-----	-----	-----	May 4	May 11
-----	DM	CM	EM	-----	S	DS	Apr 21	Apr 28
-----	-----	-----	EM	-----	-----	-----	May 11	May 20
S	FM	-----	-----	-----	S	-----	May 1	May 13
-----	AM	DM	CM	-----	S	-----	May 10	May 18
-----	-----	CM	-----	-----	M	-----	May 5	May 9
M	-----	-----	-----	-----	-----	-----	May 16	May 20
-----	AM	FM	-----	-----	-----	-----	May 1	May 13
-----	AM	FM	-----	-----	-----	-----	May 4	May 4
-----	-----	FM	-----	-----	-----	-----	May 8	May 12
-----	-----	FM	-----	-----	-----	-----	May 15	May 15
-----	-----	FM	-----	-----	-----	-----	May 8	May 15
-----	EM	FM	-----	-----	-----	-----	May 18	May 18
-----	EM	-----	-----	-----	M	-----	May 8	May 8
-----	FM	-----	-----	-----	-----	-----	May 11	May 18
-----	FM	EM	-----	-----	-----	-----	May 11	May 11
-----	-----	-----	-----	-----	-----	-----	May 6	May 6
M	-----	FM	-----	-----	-----	-----	-----	-----
-----	-----	FM	-----	-----	-----	-----	-----	-----
-----	-----	FM	-----	-----	-----	-----	-----	-----
-----	CS	DM	EM	-----	-----	-----	May 5	May 8
CS	DS	CS	DS	S	CS	FS	May 1	May 3
-----	-----	-----	-----	-----	-----	-----	-----	-----
AS	AS	AS	CS	S	AS	CS	Apr 3	Apr 5
DS	CS	AS	CS	SS	AS	AS	Mar 30	Apr 10
DS	AS	AS	AS	S	AS	AS	Apr 6	Apr 9
-----	ES	ES	CS	-----	AS	-----	Apr 11	Apr 17
-----	-----	-----	EM	-----	CS	-----	Apr 4	Apr 19
-----	CS	FS	-----	-----	S	-----	-----	-----
CS	AR	CR	DS	W	S	CR	Mar 6	Mar 31
-----	-----	EW	FW	-----	M	-----	-----	-----
AS	AS	CS	DS	-----	CS	-----	May 9	May 12
-----	DS	CS	-----	-----	CS	-----	Apr 21	May 4
DS	-----	DS	-----	-----	AS	-----	-----	-----
-----	-----	FM	DS	-----	AS	-----	-----	-----
-----	ES	DS	-----	-----	AS	-----	May 5	May 11
-----	-----	CM	-----	-----	-----	-----	-----	-----

		Iowa City	Mount Vernon	Cedar Rapids
THE SHRIKES (LANIIDÆ).				
58	Shrike, Northern (<i>Lanius borealis</i> 621).....	CW	DW	EW
59	Northern Loggerhead (<i>L. ludovicianus</i> mi- grans 622a).....	C S	C S	D S
THE SPARROWS (FRINGILLIDÆ).				
60	Dickcissel (<i>Spiza americana</i> 604).....	A S	A S	A S
61	Goldfinch, American (<i>Astragalinus tristis</i> 529).....	CR	A S	AR
62	Grosbeak Rose-breasted (<i>Zamelodia ludoviciana</i> 595).....	C S	C S	A S
63	Indigo Bird (<i>Cyanospiza cyanea</i> 598).....	C S	C S	C S
64	Towhee: Chewink (<i>Pipilo erythrophthalmus</i> 587).....	D S	C S	C S
65	Junco, Slate-colored (<i>Junco hyemalis</i> 567).....	AM	CW	AM
66	Sparrow, Song (<i>Melospiza cinerea</i> melodia 581).....	CM	A S	C S
67	Field (<i>Spizella pusilla</i> 563).....	C S	C S	C S
68	Tree (<i>S. monticola</i> 559).....	CW	AW	AW
69	Chipping (<i>S. socialis</i> 560).....	C S	A S	C S
70	Grasshopper (<i>Coturniculus savannarum pas- serinus</i> 546).....	E S	C S	D S
71	Fox (<i>Passerella iliaca</i> 585).....	AM	CM	AM
72	Lark (<i>Chondestes grammacus</i> 552).....	A S	C S	E S
73	White-throated (<i>Zonotrichia albicollis</i> 558) ..	AM	AM	AM
74	White-crowned (<i>Z. leucophrys</i> 554).....	.....	EM	FM
75	Vesper (<i>Pooecetes gramineus</i> 540).....	CM	C S	C S
76	Savanna (<i>Passerculus sandwichensis</i> savanna 542a).....	CM	.....	.....
77	Lincoln (<i>Melospiza lincolni</i> 583).....	.....	EM	EM
(a)	Swamp (<i>M. georgiana</i> 584).....	CM	CM	DM
(b)	Clay-colored (<i>Spizella pallida</i> 561).....	.....	EM	DM
(c)	Henslow's (<i>Ammodramus henslowii</i> 547).....	E S	E S	DM
(d)	Leconte's (<i>A. lecontei</i> 548).....	EM	.....	.....
(e)	Harris's (<i>Zonotrichia querula</i> 553).....	FM	.....	FM
(f)	Baird's (<i>Coturniculus bairdii</i> 545).....	.....	.....	.....
78	Siskin Pine (<i>Spinus pinus</i> 533).....	FW	EM	FW
79	Redpoll (<i>Acanthis linaria</i> 528).....	EW	.....	CW
(a)	Greater (<i>A. lin. rostrata</i> 526b).....	.....	.....	.....
80	Purple Finch (<i>Carpodacus purpureus</i> 517).....	DM	DW	CM
(a)	Longspur, Lapland (<i>Calcarius lapponicus</i> 636)	CW	.....	CM
(b)	Smith's (<i>C. pictus</i> 637).....	.....	EM	DM
(c)	Chestnut-collared (<i>C. ornatus</i> 638).....	.....	FM	EM
(d)	McCown's (<i>Rhynchopanes mccownii</i> 639).....	.....	FM	EM
81	Snowflake (<i>Passerina nivalis</i> 534).....	EW	EW	EW
82	Crossbill, Am. Red (<i>Loxia curvirostra</i> minor 521)	EW	FW	DW
(a)	White-winged (<i>L. Leucoptera</i> 522).....	FW	.....	GW
83	Cardinal (<i>Cardinalis cardinalis</i> 593).....	ER	FW	G
84	Grosbeak, Evening (<i>Hesperiphona vespertina</i> 514	FW	EW	EW
(a)	Canadian Pine (<i>Pinicola enucleator canadensis</i> 515).....	.....	.....	.....
(b)	Bunting, Lark (<i>Calamospiza melanocorys</i> 605) ..	.....	.....	.....
THE TROUPIALS (ICTERIDÆ).				
85	Meadowlark (<i>Sturnella magna</i> 501).....	C S	A S	C S
86	Western (<i>S. neglecta</i> 501b).....	.....	E S	.....
87	Oriole, Baltimore (<i>Icterus galbula</i> 507).....	A S	A S	A S
88	Orchard (<i>i. spurius</i> 506).....	E S	C S	C S
89	Bobolink (<i>Dolichonyx oryzivorus</i> 494).....	EM	D S	C S
90	Grackle, Bronzed (<i>Quiscalus quiscula æneus</i> 511b)	C S	C S	C S
91	Cowbird (<i>Molothrus ater</i> 495).....	A S	A S	A S

Cedar Falls	Decorah	Forest City	Boone	Atlantic	Glenwood	Chariton	*Earliest and average dates first seen after March 1st	
W	-----	CW	EW	-----	M	DW	Mar 4	Mar 7
ES	ER	ES	CS	S	S	DS	Mar 5	Mar 7
AS	AS	AS	CS	S	AS	AS	May 1	May 13
CR	AR	AR	AS	CS	AR	AR	Mar 2	Mar 9
AS	AS	AS	CS	S	CS	CS	Apr 4	Apr 25
AS	AS	CS	CS	CS	CS	CS	Apr 26	May 4
CS	AS	DM	CS	AS	CS	CS	Apr 13	Apr 30
CS	AW	AM	CW	AW	CM	AM	Mar 2	Mar 7
CS	AR	CS	CS	-----	CS	-----	Mar 10	Mar 15
CS	AS	CS	CS	-----	CS	-----	Mar 21	Apr 6
CW	AW	AW	AW	-----	AM	-----	Mar 3	Mar 15
CS	AS	AS	CS	-----	CS	-----	Apr 3	Apr 9
CM	ES	DS	DS	-----	ES	-----	-----	-----
DS	AM	AM	CM	M	AM	-----	Mar 17	Mar 25
CS	CS	AM	CM	-----	CS	-----	Apr 27	Apr 27
-----	AM	AM	CM	-----	CM	-----	Mar 4	Mar 11
-----	CM	EM	CM	W	CM	-----	Apr 11	Apr 27
-----	AS	DS	DS	-----	CM	-----	Mar 23	Apr 3
-----	-----	EM	DS	-----	S	-----	-----	-----
-----	ES	CM	EM	-----	-----	-----	Apr 28	Apr 28
-----	-----	ES	-----	-----	-----	-----	Mar 20	Apr 19
-----	-----	CM	-----	-----	M	-----	-----	-----
-----	-----	CM	CM	-----	M	-----	-----	-----
-----	-----	CM	-----	-----	M	-----	-----	-----
W	-----	FW	EW	-----	W	-----	-----	-----
W	EW	CW	EW	-----	W	-----	Mar 10	Mar 10
M	AW	CM	EM	-----	W	-----	-----	-----
CW	-----	AW	-----	-----	-----	-----	Apr 6	Apr 17
DW	-----	-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----
W	AW	CW	FW	-----	W	-----	-----	-----
-----	CM	EW	FW	-----	W	-----	-----	-----
-----	-----	-----	-----	-----	W	-----	-----	-----
-----	-----	-----	G	GS	S	-----	May 8	May 10
EW	-----	FW	-----	-----	-----	-----	Mar 1	Mar 18
-----	-----	-----	-----	-----	W	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----
CS	AS	AS	AS	CS	S	DS	Mar 4	Mar 8
AS	FS	DS	DS	-----	AS	CS	-----	-----
CS	CS	AS	CS	CS	CS	CS	Apr 30	May 2
CS	CS	DS	CS	CS	CS	DS	May 5	May 7
AS	AS	CS	AS	M	M	DS	May 2	May 9
DS	AS	AS	AS	S	AS	CS	Mar 4	Mar 15
-----	-----	AS	DS	CS	-----	AS	Mar 18	Apr 3

		Iowa City	Mount Vernon	Cedar Rapids
92	Blackbird, Red-winged (<i>Agelaius phoeniceus</i> 498)	D S	C S	A S
(a)	Northern Redwing (<i>A. p. fortis</i> 498d)	.....	.....	D M
93	Yellow-headed (<i>Xanthocephalus xanthocephalus</i> 479)	F M	F M	E S
94	Rusty (<i>Scolecophagus carolinus</i> 509)	C M	A M	D M
THE CROWS AND JAYS (CORVIDÆ)				
95	Jay, Blue (<i>Cyanocitta cristata</i> 477)	C R	A R	C R
(a)	Canada (<i>Perisoreus canadensis</i> 484)	.....	.....	.....
96	Crow, American (<i>Corvus brachyrhynchos</i> 488)	C R	A R	A R
THE LARKS (ALAUDIDÆ)				
97	Lark, Prairie Horned (<i>Otocoris alpestris praticola</i> 474b)	C R	A R	A R
THE FLYCATCHERS (TYRANNIDÆ)				
98	Kingbird (<i>Tyrannus tyrannus</i> 444)	.....	.....	.....
99	Phoebe (<i>Sayornis phoebe</i> 456)	A S	C S	C S
100	Pewee, Wood (<i>Contopus virens</i> 461)	A S	C S	A S
101	Flycatcher, Great-crested (<i>Myiarchus crinitus</i> 452)	D S	D S	C S
102	Trail's (<i>Empidonax traillii</i> 466a)	C M	D S	D S
103	Acadian (<i>E. virescens</i> 465)	.....	C S	D S
104	Least (<i>E. minimus</i> 467)	C M	D M	D S
105	Yellow-bellied (<i>E. flaviventris</i> 463)	.....	.....	F M
(a)	Olive-sided (<i>Nuttallornis borealis</i> 459)	.....	D M	F M
ORDER.—GOATSUCKERS, ETC. (MACROCHIRES)				
THE HUMMINGBIRDS (TROCHILIDAE)				
106	Hummingbird, Ruby-throated (<i>Trochilus colubris</i> 428)	C S	C S	C S
THE SWIFTS (MICROPODIDAE)				
107	Swift, Chimney (<i>Chaetura pelagica</i> 423)	A S	A S	A S
THE GOATSUCKERS (CAPRIMULGIDAE)				
108	Nighthawk (<i>Chordeiles virginianus</i> 420)	C S	E S	A S
109	Whip-poor-will (<i>Antrostomus vociferus</i> 417)	C S	C S	C S
ORDER.—WOODPECKERS (PICIDÆ)				
THE WOODPECKERS (PICIDÆ)				
110	Woodpecker, Red-headed (<i>Melanerpes erythrocephalus</i> 406)	C S	A S	C S
111	Golden winged Flicker (<i>Colaptes auratus</i> 412)	A S	A S	A S
112	Hairy (<i>Dryobates villosus</i> 393)	C R	C R	C R
113	Northern Downy (<i>D. pubescens medianus</i>)	C R	C R	C R
114	Yellow-bellied (<i>Sphyrapicus varius</i> 402)	C M	C M	A M
115	Red-bellied (<i>Centurus carolinus</i> 409)	D W	D R	E R
116	Pileated (<i>Ceophloeus pileatus obiectola</i> 405)	.....	.....	F R
ORDER.—KINGFISHERS AND CUCKOOS (COCYGES)				
THE KINGFISHERS (ALCEDINIDÆ)				
117	Kingfisher, Belted (<i>Ceryle alcyon</i> 390)	C S	D S	C S

Cedar Falls	Decorah	Forest City	Boone	Atlantic	Glenwood	Charlton	*Earliest and average dates first seen after March 1st	
-----	A S	A S	A S	A M	-----	A S	Mar 8	Mar 17
D S	C S	C S	E S	M	C S	A S	Mar 24	Mar 31
-----	D S	C M	C M	M	C M	-----	Mar 6	Mar 15
A R	A R	C R	A R	A R	A R	C R	Mar 1	Mar 2
A R	A R	C R	C R	G M	A R	A R	Mar 1	Mar 3
-----	-----	-----	-----	A R	-----	-----	-----	-----
C R	A R	C R	A R	S	C R	A R	Mar 1	Mar 9
-----	-----	-----	-----	-----	-----	-----	-----	-----
C S	A S	A S	C S	S	C S	C S	Mar 2	Mar 10
C S	A S	C S	D S	S	S	D S	Mar 25	Apr 16
C S	A S	E S	D S	M	S	C S	Apr 24	May 1
-----	-----	C S	-----	-----	C S	-----	-----	-----
-----	C S	C S	D S	-----	C S	-----	-----	-----
-----	-----	A M	E S	-----	-----	C S	Apr 21	May 9
-----	F S	D M	-----	-----	-----	-----	Apr 28	May 3
-----	-----	-----	-----	-----	-----	-----	Mar 16	Mar 16
-----	-----	-----	-----	-----	-----	-----	-----	-----
C S	F S	C S	C S	S	S	C S	May 4	May 11
A S	A S	A S	A S	S	S	C S	Apr 7	Apr 16
S	A S	A S	C S	A M	S	A S	Apr 18	May 1
S	A S	D S	C S	C S	S	C S	Apr 7	Apr 21
-----	-----	-----	-----	-----	-----	-----	-----	-----
A S	A S	C S	A S	C S	C S	A R	Mar 6	Mar 18
A S	A S	A S	A S	S	R	C S	Mar 13	Mar 18
DR	AW	CR	DR	R	R	CR	Mar 1	Mar 5
DR	AW	CR	CR	R	R	CR	Mar 1	Mar 2
D S	D S	F S	E M	M	R	-----	Mar 7	Mar 16
-----	F M	-----	E R	-----	-----	E R	Mar 7	Apr 8
-----	-----	-----	-----	-----	-----	-----	-----	-----
C S	C S	C S	C S	C S	S	C S	Mar 9	Mar 27

		Iowa City	Mount Vernon	Cedar Rapids
THE CUCKOOS (CUCULIDÆ).				
118	Cuckoo, Yellow-billed (<i>Coccyzus americanus</i> 387)	C S	D S	C S
119	Black-billed (<i>C. erythrophthalmus</i> 388)	C S	E S	D S
ORDER.—BIRDS OF PREY (RAPTORES).				
THE OWLS (BUBONIDÆ).				
120	Owl, Screech (<i>Megascops asio</i> 373)	CR	CR	CR
121	Barred (<i>Syrnium varium</i> 368)	CR	DR	DR
122	Great-horned (<i>Bubo virginianus</i> 375)	DR	DR	CR
123	Long-eared (<i>Asio wilsonianus</i> 366)	ER	ER	DR
124	Short-eared (<i>A. accipitrinus</i> 367)	EW	DW	CW
125	Snowy (<i>Nyctea nyctea</i> 376)	FW	FW	GW
(a)	Burrowing (<i>Speotyto cunicularia hypogæa</i> 378)			
(b)	Saw-whet (<i>Cryptoglaux acadica</i> 372)	FW	FR	EW
THE BARN OWLS (STRIGIDÆ).				
(c)	Owl, Barn (<i>Strix pratincola</i> 365)	FR	F S	FR
THE FALCONS (FALCONIDÆ).				
126	Eagle, Bald (<i>Haliaetus leucocephalus</i> 352)	EM	ER	FR
127	Golden (<i>Aquila chrysaetos</i> 349)	EM	FW	G
128	Kite, Swallow-tailed (<i>Elanoides forficatus</i> 327)	FM		F S
129	Hawk, Fish: Osprey (<i>Pandion haliaetus carolinensis</i> 364)	EM	FM	CM
130	Red-tailed (<i>Buteo borealis</i> 337)	CR	CR	CS
131	Sparrow (<i>Falco sparverius</i> 360)	C S	C S	D S
132	Pigeon (<i>F. columbarius</i> 357)	EM	EM	DM
133	Cooper's (<i>Accipiter Cooperii</i> 333)	C S	C S	C S
134	Sharp-shinned (<i>A. velox</i> 332)	CM	DW	DM
135	Marsh (<i>Circus hudsonius</i>)	DM	E S	D S
136	Broad-winged (<i>Buteo platypterus</i> 343)	CM		E S
137	Red-shouldered (<i>B. lineatus</i> 339)	E S	F S	D S
138	Rough-legged (<i>archibuteo lagopus sancti-johannis</i> 347a)	EW		AM
(a)	Ferruginus Rough-legged (<i>A. ferruginus</i> 348)			
(b)	Goose, Am.: Goshawk (<i>Accipiter atricapillus</i> 334)			GW
(c)	Swainson's (<i>Buteo swainsoni</i> 342)		E S	E S
(d)	Harlan's (<i>B. harlani</i> 337i)			F S
(e)	Krider's (<i>B. borealis kriderii</i> 337a)	FM	ER	
(f)	Duck (<i>Falco peregrinus anatum</i> 356)	EM	F S	
(g)	Falcon, Prairie (<i>Falco mexicanus</i> 355)			
(h)	Richardson's (<i>F. richardsonii</i> 358)			
139	Vulture, Turkey (<i>Cathartes aura</i> 325)	F S	D S	E S
ORDER.—DOVES (COLUMBÆ).				
THE DOVES (COLUMBIDÆ).				
140	Dove, Mourning (<i>Zenaidura macroura</i> 316)	A S	A S	C S
141	Pigeon, Passenger (<i>Ectopistes migratorius</i> 315)			
ORDER.—GALLINACEOUS BIRDS (GALLINÆ).				
THE FOWLS (TETRAONIDÆ).				
142	Bob-white, Eastern (<i>Colinus virginianus</i> 289)	AR	CR	CR
143	Prairie-hen (<i>Tympanuchus americanus</i> 305)	ER	ER	DR
144	Grouse, Ruffed (<i>Bonasa umbellus</i> 300)	DR	ER	ER

Cedar Falls	Decorah	Forest City	Boone	Atlantic	Glenwood	Chariton	*Earliest and average dates first seen after March 1st	
D S D S	A S C S	C S C S	D S D S	C S	S S	C S C S	Apr 24 May 10	May 12 May 19
CR ER DR ER	AR ER CR CR ER FM	CR ER DR CR DR EW	CR ER DR CR DR EW	R R R W	R R R R W	CR CR CR CW EW	Mar 6 Mar 15	Apr 1 Mar 26
FR FR .....	..... .....	EM	FW .....	..... .....	..... .....	EW.....	..........	..........
.....	.....	.....	F S	W	.....	FW	.....	.....
F S F S .....	..... .....	FM DM	EM EM	..... M	G G	M S	..........	..........
D S C S C S C S D S A S	AR ES F S AR ER ER	FM C S C M C S C S E S	EM C S D M D M D S D S E M	R M M	R S G R M M S F R	R S M W W	Apr 14 Mar 3 Mar 6	Apr 24 Mar 5 Mar 19
CM .....	.....	EM	DM	.....	FM G	W	.....	.....
.....	.....	EW C S F M D S E M	..... D S ..... ..... .....	..... ..... ..... .....	G R G G	C S...............	...............	..........
F S	GM	E S	D S	S	S	S	May 8	May 17
A S	C S	A S	A S	SA	S	S FM	Mar 5	Mar 17
DR FR	AR CR CR	CR CR DR	AR ER ER	R W R	R	CR ER ER	Mar 2 Mar 2 Apr 25	Mar 8 Mar 13 Apr 27

	Iowa City	Mount Vernon	Cedar Rapids
THE PHEASANTS (PHASIANIDÆ).			
145 Turkey, Wild (<i>Meleagris gallopavo silvestris</i> 310a)	-----	-----	-----
ORDER.—SHORE BIRDS (LIMICOLÆ).			
THE PLOVERS (CHARADRIIDÆ).			
146 Plover, Killdeer (<i>Oxyechus vociferus</i> 273)	E S	D S	D S
147 Belted Piping: Ring (<i>A. meloda circumcincta</i> 277a)	-----	-----	DM
(a) Semipalmated (<i>A. semipalmata</i> 274)	EM	-----	EM
(b) Snowy (<i>A. nivosa</i> 278)	-----	-----	-----
(c) Golden (<i>Charidrius dominicus</i> 272)	-----	-----	FM
(d) Black-bellied (<i>Squatarola squatarola</i> 270)	-----	FM	EM
(e) Turnstone (<i>Arenaria interpres</i> 283)	-----	-----	FM
THE STILTS, ETC. (RECURVIROSTRIDÆ).			
148 Avocet (<i>Recurvirostra americana</i> 225)	FM	-----	-----
(a) Stilt, Black-necked (<i>Himantopus mexicanus</i> 226)	-----	-----	-----
THE PHALAROPE (PHALAROPODIDÆ).			
149 Phalarope, Wilson (<i>Steganopus tricolor</i> 224)	-----	DM	EM
(a) Red (<i>Crymophilus fulcarius</i> 222)	-----	-----	-----
(b) Northern (<i>Phalaropus lobatus</i> 223)	-----	-----	-----
THE SNIPES, SANDPIPERS (SCOLOPACIDÆ).			
150 Snipe, Wilson (<i>Gallinago delicata</i> 230)	CM	EM	CM
151 Woodcock, American (<i>Philohela minor</i> 228)	ES	-----	ES
152 Sandpiper, Spotted (<i>Actitis macularia</i> 263)	CS	DS	AS
153 Pectoral (<i>Actodromas maculata</i> 239)	CM	DM	DM
154 Least (<i>A. minutilla</i> 242)	CM	EM	AM
155 Baird's (<i>A. bairdii</i> 241)	EM	-----	CM
156 Bartramian (<i>Bartramia longicauda</i> 261)	ES	ES	DS
157 Semipalmated (<i>Ereunetes pusillus</i> 246)	-----	DM	EM
158 Yellow-legs, Lesser (<i>Totanus flavipes</i> 255)	CM	-----	DM
159 Greater (<i>T. melanoleucus</i> 254)	CM	-----	DM
(a) Sandpiper, Stilt (<i>Micropalama himantopus</i> 233)	-----	-----	FM
(b) White-rumped (<i>Tringa fuscicollis</i> 240)	-----	-----	EM
(c) Red-backed (<i>Pelidna alina pacifica</i> 243a)	-----	-----	FM
(d) Solitary (<i>Totanus solitarius</i> 256)	DM	CM	DM
(e) Buff-breasted (<i>Tryngites subruficollis</i> 262)	-----	-----	FM
(f) Dowitcher, Long-billed (<i>Macrorhamphus scolopaceus</i> 232)	-----	-----	FM
(g) Willet, Western (<i>Symphemia semipalmata inornata</i> 258a)	-----	-----	FS
(h) Godwit, Marbled (<i>Limosa fedoa</i> 249)	-----	-----	-----
(i) Sanderling (<i>Calidris arenaria</i> 248)	-----	-----	-----
(j) Curlew, Eskimo (<i>Numenius borealis</i> 266)	-----	-----	-----
(k) Hudsonian (<i>N. hudsonicus</i> 265)	FM	-----	EM
(l) Long-billed (<i>N. longirostris</i> 264)	-----	-----	FM
ORDER.—CRANES, RAILS, ETC. (PALUDICOLÆ)			
THE CRANES (GRUIDÆ).			
160 Crane, Sandhill (<i>Grus mexicana</i> 206)	EM	EM	EM
(a) Whooping (<i>G. americana</i> 204)	-----	FM	FM
(b) Little Brown (<i>G. canadensis</i> 205)	-----	-----	-----

		Iowa City	Mount Vernon	Cedar Rapids
THE RAILS (RALLIDÆ).				
161	Coot, American (<i>Fulica americana</i> 221).....	ES	FS	CS
162	Rail, Sora (<i>Porzana carolina</i>).....	ES	DS	CS
163	Virginia (<i>Rallus virginianus</i> 212).....	DM	.....	DS
(a)	King (<i>R. elegans</i> 208).....	CM	.....	DS
(b)	Black (<i>Porzana jamaicensis</i> 216).....	.....	.....	FS
(c)	Yellow (<i>P. noveboracensis</i> 215).....	FM	.....	FS
164	Gallinule Florida (<i>Gallinula galeata</i> 219).....	EM	.....	DM
ORDER.—HERONS, ETC.—(HERODIONES).				
THE HERONS AND BITTERNS (ARDEIDÆ).				
165	Heron, Green (<i>Butorides virescens</i> 201).....	CS	CS	AS
166	Bittern, Least (<i>Ardetta exilis</i> 191).....	ES	DS	CS
167	American (<i>Botaurus lentiginosus</i> 190).....	ES	.....	DS
168	Heron, Great Blue (<i>Ardea herodias</i> 194).....	DS	DM	CM
169	Black-crowned Night (<i>Nycticorax nycticorax</i> <i>naevius</i> 202).....	EM	.....	DM
(a)	Egret American (<i>Ardea egretta</i> 196).....	.....	.....	.....
ORDER.—LAMELLIROSTRAL SWIMMERS (AN- SERES).				
SWANS, GEESE AND DUCKS (ANATIDÆ).				
SUB-FAMILY: THE SWANS (CYGNINÆ).				
170	Swan, Whistling (<i>Olor columbianus</i> 180).....	DM	.....	EM
171	Trumpeter (<i>O. buccinator</i> 181).....	.....	.....	FM
SUB-FAMILY: THE GEESE (ANSERINÆ).				
172	Goose, Canada (<i>Branta canadensis</i> 172).....	CM	AM	CM
(a)	Goose, Hutchin's (<i>B. can. hutchinsii</i> 172).....	.....	.....	.....
173	Am. White-fronted (<i>Anser albifrons gambeli</i> <i>171a</i>).....	CM	DM	DM
174	Lesser Snow (<i>Chen Hyperborea</i> 169).....	EM	CM	EM
(a)	Blue (<i>C. coerulescens</i> 1691).....	.....	.....	.....
SUB-FAMILY: THE RIVER AND POND DUCKS (ANATINÆ)				
175	Duck, Mallard (<i>Anas boschas</i> 132).....	CM	AM	AM
176	Blue-Winged Teal (<i>A. querquedula discors</i> <i>139</i>).....	CM	CM	AM
177	Green-winged Teal (<i>A. Nettion carolinensis</i> <i>(a)</i> Cinnamon Teal (<i>Q. cyanoptera</i> 141).....	CM	FM	AM
178	Pin-tail (<i>Dafila acuta</i> 143).....	CM	CM	DM
179	Shoveler (<i>Spatula clypeata</i> 142).....	CM	FM	CM
180	Baldpate (<i>Mareca americana</i> 137).....	DM	DM	EM
181	Wood (<i>Aix sponsa</i> 144).....	ES	FS	DM
(a)	Black (<i>Anas obscura</i> 133).....	.....	EM	GM
(b)	Gadwall (<i>Chauelasmus strepera</i> 135).....	DM	EM	DM
SUB-FAMILY: THE SEA DUCKS (FULIGULINÆ)				
182	Lesser Scaup (<i>Aythya affinis</i> 149).....	CM	AM	AM
(a)	American Scaup (<i>A. marila</i> 148).....	CM	.....	CM
183	Ring-neck (<i>A. collaris</i> 150).....	CM	DM	CM
184	Buffle-head (<i>Charitonetta albeola</i> 153).....	DM	DM	DM
185	Ruddy (<i>Erismatura jamaicensis</i> 167).....	EM	.....	DM
186	Redhead (<i>Aythya americana</i> 146).....	EM	DM	DM
187	Canvas-back (<i>A. vallisneria</i> 147).....	FM	EM	DM
(a)	Harlequin (<i>Histrionicus histrionicus</i> 155).....	.....	.....	FW
(b)	Old Squaw (<i>Harelda hyemalis</i> 154).....	.....	.....	FW

Cedar Falls	Decorah	Forest City	Boone	Atlantic	Glenwood	Chariton	*Earliest and average dates first seen after March 1st	
A S	A S	A S	D S	S	S	M	Mar 21	Mar 27
SSSS	SSSS	SSSS	SSSS	---	SSSS	---	Apr 25	Apr 30
S	F S	D S	E S	M	S	M	Apr 22	Apr 24
---	---	---	---	---	---	---	---	---
M	---	E S	---	---	S	---	May 5	May 5
---	---	---	---	---	---	---	---	---
C S	C S	C S	C S	S	S	S	Apr 3	Apr 14
SSSS	SSSS	SSSS	SSSS	---	SSSS	---	---	---
M	C C S	C C S	A S	S	S	M	Apr 25	May 2
---	---	---	E S	M	S	M	Apr 25	Apr 25
M	C S	C S	F S	M	S	---	---	---
---	---	---	---	---	---	GM	---	---
---	---	---	---	---	---	---	---	---
M	GM	DM	EM	M	M	---	---	---
---	---	---	---	---	M	---	---	---
M	CM	E S	CM	M	M	M	Mar 2	Mar 15
---	---	---	---	---	---	---	---	---
M	---	CM	FM	M	M	---	---	---
---	---	CM	EM	---	M	M	---	---
---	---	---	---	---	---	---	---	---
M	AM	D S	DM	AM	M	M	Mar 17	Mar 22
---	---	---	---	---	---	---	---	---
S	AM	C S	AM	M	M	M	Mar 18	Apr 3
M	AM	CM	AM	AM	M	M	Mar 16	Apr 5
M	---	---	---	M	M	---	---	---
M	AM	AM	AM	M	M	M	Mar 17	Mar 21
M	EM	CM	CM	M	M	M	Mar 28	Apr 10
M	---	DM	FM	M	M	M	---	---
S	---	D S	DM	M	M	M	Mar 20	Mar 20
---	---	FM	---	---	---	---	---	---
M	---	EM	CM	---	M	---	---	---
---	---	---	---	---	---	---	---	---
M	FM	CM	CM	---	M	M	Mar 17	Mar 19
M	---	CM	DM	---	M	---	---	---
M	---	CM	EM	M	M	---	---	---
M	---	CM	EM	---	M	M	---	---
M	CM	DM	FM	---	M	M	---	---
M	CM	EM	FM	M	M	M	Apr 3	Apr 3
---	---	---	---	---	---	---	---	---
M	---	---	---	---	M	---	---	---

		Iowa City	Mount Vernon	Cedar Rapids
(c)	American Golden Eye (<i>Clangula clangula</i> americana 151).....	EM	.....	DW
(d)	Barrow's Golden Eye (<i>C. islandica</i> 152).....	.....	.....	EW
(c)	American Scoter (<i>Oidemia americana</i> 163).....	.....	.....	EM
(f)	White-winged Scoter (<i>O. deglandi</i> 165).....	.....	.....	FM
(g)	American Eider (<i>Somateria dresseri</i> 160).....	.....	.....	FW
(h)	King Eider (<i>S. spectabilis</i> 162).....	.....	.....	FW
	SUB-FAMILY: THE FISH DUCKS (MERGINÆ).			
188	Merganser, Hooded (<i>Lophodytes cucullatus</i> 131).....	DM	DM	CM
189	Red-breasted (Merganser serrator 130).....	CM	.....	DM
(a)	American (<i>M. americana</i> 129).....	CM	DM	FM
	ORDER.—TOTOPALMATE SWIMMERS (STEGANOPODES).			
	THE PELICANS (PELECANIDÆ).			
190	Pelican, White (<i>Pelecanus erythrorhynchos</i> 125).....	EM	CM	DM
	THE CORMORANTS (PHALACROCORACIDÆ).			
191	Cormorant, Double-crested (<i>Phalacrocorax dilophus</i> 120).....	CM	AM	CM
	ORDER.—LONG-WINGED SWIMMERS (LONGIPENNES).			
	THE GULLS (LARIDÆ).			
192	Gull, Franklin's (<i>Larus franklinii</i> 59).....	.....	EM	CM
193	Ring-billed (<i>L. delawarensis</i> 54).....	.....	.....	CM
194	Herring (<i>L. argentatus</i> 51a).....	EM	EM	EM
(a)	Bonaparte's (<i>L. philadelphia</i> 60).....	.....	.....	FM
(b)	Sabine's (<i>Xema sabinii</i> 62).....	.....	.....	.....
(c)	Kittiwake (<i>Rissa tridentata</i> 40).....	.....	.....	GM
	THE TERNS (STERNINÆ).			
195	Tern, Black (<i>Hydrochelidon nigra surinamensis</i> 77).....	DM	.....	AM
196	Caspian (<i>Sterna tschegrava</i> 64).....	EM	.....	CM
(a)	Common (Wilson's) (<i>S. hirundo</i> 70).....	EM	.....	CM
(b)	Arctic (<i>S. paradisæa</i> 71).....	.....	.....	DM
(c)	Forster's (<i>S. forsteri</i> 69).....	EM	.....	DM
(d)	Least (<i>S. antillarum</i> 74).....	.....	.....	GM
	ORDER.—DIVING BIRDS (PYGOPODES).			
	THE LOONS (GAVIIDÆ).			
197	Loon, Great-Northern (<i>Gavia imber</i> 7).....	CM	EM	CM
(a)	Red-throated (<i>G. lumme</i> 11).....	.....	.....	.....
(b)	Black-throated (<i>G. arcticus</i> 9).....	.....	.....	.....
	THE GREBES (PODICIPIDÆ).			
198	Grebe, Pied-billed (<i>Podilymbus podiceps</i> 6).....	CM	ER	CS
199	American Eared (<i>Colymbus nigricollis californicus</i> 4).....	.....	.....	DM
(a)	Horned (<i>C. auritus</i> 3).....	.....	EM	EM
(b)	Holbeins (<i>C. holbellii</i> 2).....	.....	.....	FM
(c)	Western (<i>Aechmophorus occidentalis</i> 1).....	.....	.....	.....

Cedar Falls	Decorah	Forest City	Boone	Atlantic	Glenwood	Chariton	*Earliest and average dates first seen after March 1st	
M	EM	.....	M	M	.....	.....	.....
.....	M	M	.....	.....	.....
.....	M	.....	.....	.....
.....	M	.....	.....	.....
S	CM	FM	.....	M	M	.....	.....
.....	CM	EM	M	M	.....	Apr 8	Apr 8
M	DM	FM	.....	M	.....	.....	.....
M	FM	DM	DM	M	M	M	Mar 11	Mar 13
M	EM	EM	M	M	M	.....	.....
.....
M	EM	DM	M	M	.....	Apr 25	May 3
M	DM	DM	.....	M	.....	Apr 4	Apr 4
M	M	.....	Mar 21	Mar 21
.....
M	AS	DM	M	M	M	May 5	May 10
.....	M	M	.....	May 12	May 12
M	EM	CM	.....	M	M	.....	.....
.....	EM	.....	.....	M	.....	.....	.....
M	DM	DS	DM	M	M	M	Apr 11	Apr 12
.....	W	.....	.....	.....
DS	CM	CS	DS	M	S	M	.....	.....
.....	ES	.....	.....	M	.....	Mar 24	Apr 6
S	FM	.....	.....	M	.....	.....	.....
.....	M	.....	.....	.....

BIRD PROTECTION

BY E. LUCAS LEFEBURE

The Economical Value of Wild Birds

The relation of birds and insects is of late years becoming an important study with scientists, and the result of their investigations is extremely interesting. Almost all species of insects increase rapidly if left undisturbed by their enemies.

Professor Lawrence Bruner of the University of Nebraska, estimates that if all the native birds were exterminated it would require only about seven years for the insects to increase to such an extent as to wholly destroy all crops. He further estimates that a single pair of Bob-Whites, with their young, is worth about six dollars a year to the farmer, in the destruction of noxious weeds and insects. It has been repeatedly noted, both in Europe and America, that a great decrease in the number of birds in any locality is always followed by an immense loss to the crops from the ravages of insects.

Swallows, vireos and warblers live exclusively upon insects, while the thrushes, sparrows and troupials subsist almost entirely upon the same diet, requiring a little fruit in addition; and others, especially those that remain through the winter or arrive early in the spring, eat seeds, mostly those of injurious weeds.

Prof. F. E. L. Beal, referring to one species of our native sparrows, estimates that the little tree sparrow of Iowa consumes a million and a half of weed seeds annually. Woodpeckers, chickadees, nuthatches, and others that remain with us over winter, keep busy through the cold months eating the eggs and larvæ of insects.

The birds of prey subsist largely upon rodents, the hawks hunting during the day and the owls by night. The state of Pennsylvania in 1885 passed what was known as the "scalp act," providing a bounty of fifty cents for the heads of hawks and owls, but it was found that the increased ravages of field mice

resulted in damage to the crops amounting to millions of dollars and the law was promptly repealed.

The ornithological division of the biological survey is made a court of last resort for birds that are accused. Examination has been made of the stomachs of over eighty species suspected of being harmful to agricultural interests, with the result that only the English sparrow was found guilty of *all* that was charged against him, and the only other birds found injurious were the goshawk, Cooper's hawk, sharp-shinned hawk and the great horned owl.

Aside from the value of the birds from an economic standpoint they have also a value that is inestimable for their beauty and song, the lessons they teach, and as subjects for observation and study.

However beautiful the home grounds are made, it is only when the birds have come, adding their share of life and beauty, and song, that the work is complete.

Who can watch the birds flitting about, building their nests and feeding their young, without being impressed by their industry and devotion? Who can observe their courtship and mating and home life without learning of fidelity and constancy? The atmosphere which prevails in a real home among mankind is also evident without exception among the bird homes, and wins from every thoughtful person a sincere affection for the little home builders.

Necessity for Bird Protection

It seems to be the general opinion among the older residents that there are now not more than one-half as many land birds in the state as there were forty years ago. The number of species is also much on the decrease.

Some species hold their own much better than others. Among these are the crow, robin, red-headed woodpecker, Baltimore oriole, bluebird, night-hawk, chimney swift and the blue jay. It will be noticed that all these are such as generally place their nests where they are not likely to be interfered with by either cats or English sparrows.

The passenger or wild pigeon is practically gone. It is described in this book for historical information only, and because it is loved and not forgotten. There is almost no chance at all that it can ever be restored. The wild turkey is gone, but can be restored. The Carolina parakeet was once frequently seen in this state, but if now existing at all, it is only in the everglades of Florida.

However, there is reason for encouragement in the fact that interest in bird protection is growing all over America.

Collecting With the Camera

Chapman, Job, Dugmore and many other ornithologists in the East are now devoting a great part of their time to the collecting of photographs of bird and other wild life with a camera. It is noticeable, too, that all the latest of the more important books on the subject of ornithology are using these photographs in portraying more in detail the habits of the birds.

This, it seems to me, is a certain indication that the present custom in the colleges and schools, of pursuing nature study in the field, will be extended. This will also have the tendency to make of the present nature students, practical field naturalists rather than mere "closet naturalists." With a camera, therefore, one can secure not only many valuable prints for his own collection, but slides and pictures that will be highly appreciated and of great value to educational institutions and to lecturers on bird life.

When a bird is found killed by contact with wires or from any other cause, it is best to send it to some museum, where, if valuable, it may be preserved. This would, in no small measure, satisfy the demand for specimens. There is also some demand for the nests after they have been used, of rather rare species. It is fortunate that the coming of the camera combined with the increasing interest in bird protection, is substituting for private collections of birds, eggs and nests, such as are sometimes found in offices and club rooms, the far more desirable photographs of our birds in their haunts. The people in America have not been much addicted to such collecting. In this we are more fortunate than are the people of Europe.

Following are a few lines quoted from "Birds and Man," a book by an English bird-lover, Mr. W. H. Hudson, and published by Longmans, Green & Co., London.

"There can be no doubt that the decline of the Dartford Warbler (or furze wren) is directly attributable to the greed of private collectors who are all bound to have specimens—as many as they can get—both of the birds and of the nest and eggs."

Further on he writes as follows:

"There is not a county in the Kingdom where you may not hear of collectors of birds and of their eggs, law-breakers, every day of their lives. They take and pay for every rare visitant that comes in their way and exchange with other private collectors in distant counties. In this way our finest species are being extirpated. Within the last few years have disappeared the ruff and reeve, marsh harrier and the honey buzzard; and the species which will now follow are the sea-eagle, osprey, kite, hen harrier, Montagu's harrier, stone curlew, Kentish

plover, dotterel, red-necked phalarope, roseate tern, bearded tit, gray-legged goose and the great squa. Then will follow the clough, hobby, great black-backed gull, furze wren, crested tit and others. These are the species which, as things are going, will forever disappear from off the British Islands. It is poor comfort to the bird lover in southern England to know that many species that formerly gave life and interest to the scene and have lately been done to death there, may still be met with in the wilder parts of Scotland, or in some forest in the north of Wales. That 'destruction of beautiful things' about which Ruskin wrote despairingly, has indeed fallen and continues to fall on the beautiful bird-life of our country."

"Those who in the years to come will inherit the numberless useless private collections now being formed will make haste to rid themselves of such unhappy legacies by destroying them outright in their anxiety to have it forgotten that one of their name had a part in the detestable business of depriving the land of those wonderful and beautiful forms of life—a life which future generations would have cherished as a dear and sacred possession."

Hunting With the Camera

On this subject I wish to adapt the following from Frank M. Chapman's book, "Bird Studies with a Camera."

"As a one-time sportsman, who yielded to none in his enjoyment of the chase, I can affirm that there is a fascination about the hunting of wild animals with a camera that is far ahead of the pleasures to be derived from their pursuit with shotgun or rifle. From a sportsman's standpoint, hunting with a camera is the highest development of man's inherent love of the chase."

"The demands on the skill and patience of the bird photographer are endless and his pleasure is intensified in proportion to the nature of the difficulties to be overcome, and in the event of success, it is perpetuated by the infinitely more satisfactory results obtained. He does not rejoice over a bag of mutilated flesh and feathers, but in the possession of a trophy, an eloquent token of his prowess as a hunter, and one which has the power to revivify the circumstances attending its acquisition."

I will further quote, with slight condensation, from Herbert K. Job's article in the Review of Reviews of April, 1905:

"It is not because he loves to kill, nor (ordinarily) because he lusts after the flesh pots, that the true sportsman goes hunting. It is because of interest in wild life together with the satisfaction of matching wit against wit in the chase as a game of

skill. Why, then, need one employ shotgun or rifle as the implement used when all these requirements and other advantages besides are fulfilled by the camera." Further on he says: "I write as a sportsman, not as a fanatic, in honestly advocating the substitution of the camera for the gun, in the greatest possible measure. I own a gun, and in time past I have hunted with it considerably. I am thoroughly conversant with both gun and camera. but I deliberately choose and prefer the camera for genuine sport and the greater enjoyment."

At the end of the article is the following letter from President Roosevelt with respect to Mr. Job's recent book, "Among the Water Fowl":

White House, Washington.

MY DEAR MR. JOB:—

As a fellow Harvard man, I must thank you for your exceedingly interesting book. I have been delighted with it, and I desire to express to you my sense of the good which comes from such books as yours, and from the substitution of the camera for the gun. The older I grow the less I care to shoot anything except "varmints." I do not think it at all advisable that the gun should be given up, nor does it seem to me that shooting wild game under proper restrictions can be legitimately opposed by any one who is willing that domestic animals shall be kept for food; but there is altogether too much shooting, and if we can only get the camera in place of the gun, and have the sportsman sunk somewhat in the naturalist and lover of wild things, the next generation will see an immense change for the better in the life of our woods and waters. But I am still something of a hunter, although a lover of wild nature first.

Faithfully yours.

THEODORE ROOSEVELT.

The camera is not limited to use with game birds, but can be used with all kinds of birds, and in fact, with all kinds of life, wild and domestic. It can be used at all times, there being no closed seasons. It does not shed blood nor does it maim or kill. It does not exterminate the rare species. The joy of the sport can be had by women as well as men and by the boys and girls as well as the adults.

The Game Laws

Sportsmen themselves are beginning to realize that too much shooting is exterminating the game birds. Many of them favor a shorter open season, with no shooting in the spring. Some species should not be killed at all, for a number of years. A

law including the above provisions, and requiring owners of guns to pay a license of \$1 or \$2 per year, with a higher tax for non-resident hunters, will prevent much of the indiscriminate shooting by irresponsible parties.

Laws are of little avail, however, unless there is a strong sentiment in favor of their enforcement.

Many hunters, acting upon their own convictions, voluntarily refrain from hunting in the spring and from shooting at any time the rare game birds. Such action is worthy of commendation.

Farmers' boys can aid in protecting quail, prairie chicken, woodcock and other game birds in their immediate vicinities by a mutual understanding, and by refusing permits to non-resident hunters who desire to shoot on their farms.

If this sentiment continues to grow, as it certainly must, it will be productive of much good. Vernon Bailey states that on many of the ranches in Texas there are found wild turkeys nesting along creeks in wooded valleys. These are protected by mutual agreement among the ranchmen themselves, and the trespasser who would dare to shoot one of these unlawfully will realize before he gets through that he might better have shot one of the steers instead.

Birds other than those usually regarded as game also need more careful protection. Reference is made in this connection to the gulls, terns, herons, bitterns, swans, cranes, pelicans, coots, etc., all of which help to enliven the banks and shores of our inland waters. Let us give them a chance to increase in number.

Use of Bird Plumage as Ornament

The Audubon societies are doing much to stop the slaughter of the wild birds. A law was passed by the state legislature in April, 1906, prohibiting the selling and wearing of bird plumage other than that of game or domestic birds. It is to be hoped that it will prove effective. The demand for such plumage is, however, the incentive which encourages the killing of our birds for ornamental purposes. Let an intelligent and bird-loving public cease to demand this sort of ornament, and the destruction of birds for such purposes will cease.

The English Sparrow

Some of our most unsightly weeds and most undesirable vermin are brought here from the Old World. The English sparrow was brought in 1851 with the idea that it would be beneficial, but it has fast become an almost universal pest, without

a single redeeming quality. It is a large factor in the diminution of many kinds of wild birds. While the extermination of the sparrow may be impossible, their numbers can be materially reduced.

Individuals should be employed to destroy them who know and will protect all other species. Pans of water may be placed in suitable locations where they may drink, and after all have learned to come, add a small quantity of strychnine and see that nothing but English sparrows come near.

In the winter when the snow is deep, and the English sparrows find little to eat, clear a place on which to scatter chicken feed. Supply them until they habitually resort to this place and then soak the feed in water containing a small quantity of strychnine in solution. Sweep up all poisoned grain that is left.

ATTRACTING WILD BIRDS

The number of wild birds about our homes may be largely increased by observing certain requirements—first, the furnishing of attractive conditions for nesting, resembling, as nearly as possible, those of nature, and including a proper water supply; second, the excluding of enemies to bird life.

If fallen leaves are allowed to remain beneath berry bushes, fruit trees and shrubbery, it will form an attractive feature to birds, and especially to those that habitually nest on or near the ground in wooded places; also proving beneficial to the vegetation itself, by conserving the moisture and lessening the penetration of frost. Dead tree trunks should be allowed to remain, to furnish nesting places for woodpeckers, chickadees, tree-swallows and nuthatches.

The planting of the Russian mulberry should be encouraged, not only for its beauty as a shade tree of moderate size, but for its fruit, which ripens at the same time as the cherries, and is preferred by the birds.

Many birds are attracted by the flowers of the fruit trees. Humming birds are especially attracted by the trumpet honeysuckle, whose nectar is sought by insects, and is not extracted by bees.

An excellent watering-place where birds may bathe and drink, is furnished by an artificial water-lily pond, made by sinking a tub in the ground, partially filling with rich earth well packed, with a light covering of sand, and planting with water-lily roots. One or two frogs placed in the water will destroy mosquito larvæ.

The arch-enemy of bird life is the household cat. In "Sports Afield" for March, 1906, it is stated that E. H. Forbush, State Ornithologist for Massachusetts, once shadowed a farm-house cat for one day and saw her empty six nests, eating or carrying home all of the young and some of the parent birds. They were all common orchard birds, such as robins, bluebirds, chipping sparrows, etc.

Village and farm-house lawns and garden spots where there are trees and bushes which birds frequent are searched nightly by prowling cats. The plea for the cat, on the ground of its value in destroying small rodents, is ill founded, since traps are more effective, and lovers of bird life are beginning to feel that the whole feline tribe might better be exterminated than that the present wholesale destruction of birds by cats should continue.

In New York some laws have been enacted regulating the keeping of cats, and it is to be hoped that this matter will receive the attention it deserves in all parts of America.

And the humming-bird that hung
Like a jewel up among
The tilted honeysuckle thorns
They mesmerized and swung
In the palpitating air,
Drowsed with odors strange and rare,
And, with whispered laughter, slipped away
And left him hanging there.

—J. W. Riley.

FORBEARANCE

Hast thou named all the birds without a gun?
Loved the wood rose and left it on its stalk?
At rich men's tables eaten bread and pulse?
Unarmed, faced danger with a heart of trust?
And loved so well a high behavior
In man or maid that thou from speech refrained,
Nobility more nobly to repay?
Oh, be my friend and teach me to be thine!

—Emerson.

Migration Blanks for Private Records

On the following 12 pages are blanks for a record of the 200 birds described in this book for the months of the spring migration, namely: March, April and May.

In keeping this record make small dots with the point of a lead pencil in the proper squares. Let one dot be indicative of one bird; two dots, a couple or a pair of birds; three dots, a few (say three or more); four dots, a dozen or a score; 5 dots, a large number.

If you wish to use the same blanks again for the fall migration which occurs in the months of September, October and November, make the dots for the spring migration in the upper parts of the squares and for the fall migration in the lower parts.

The time in the spring migration when the largest number of species can be seen is from about May 8 to May 15. They are best seen from 4:30 to 8:30 a. m., and from 4 to 8 p. m.

You will find it one of the pleasures of the season to keep a list of the migrants as they come north, with the dates of their arrivals. You will find it full of surprises with the new comers from day to day, especially in the case of birds that are of rather rare occurrence. You will also make many pleasant discoveries about the habits of the birds.

MIGRATION RECORD, MONTH OF

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Gnatcatcher, Blue-gray																															
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Swallow, Barn																															
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MIGRATION RECORD, MONTH OF

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160 Crane, Sandhill																														
161 Coot																														
162 Rail Sora																														
163 Virginia																														
164 Gallinule, Florida																														
165 Heron, Green																														
166 Bittern, Least																														
167 American																														
168 Heron, Great Blue																														
169 Black-crowned Night																														
170 Swan, Whistling																														
171 Trumpeter																														
172 Goose, Canada																														
173 White-fronted																														
174 Snow																														
175 Duck, Mallard																														
176 Blue-winged Teal																														
177 Green-winged Teal																														
178 Pin-tailed																														
179 Shoveler																														
180 Baldpate																														
181 Wood																														
182 Lesser Scaup																														
183 Ring-necked																														
184 Buffle-head																														
185 Ruddy																														
186 Red-head																														
187 Canvas-back																														
188 Merganser, Hooded																														
189 Red-breasted																														
190 Pelican, White																														
191 Cormorant, Double-crested																														
192 Gull, Franklin's																														
193 Ring-billed																														
194 Herring																														
195 Tern, Black																														
196 Caspian																														
197 Loon																														
198 Grebe, Pied-billed																														
199 American Eared																														

INDEX TO DESCRIPTIONS OF BIRDS

Avocet	No. 148
Bittern, American	167
Least	166
Blackbird, Cow	91
Crow	90
Red-winged	92
Rusty	94
Yellow-headed	93
Blue bird	1
Blue Jay	95
Bobolink	89
Bob-white	142
Bunting, Indigo	63
Snow	81
Butcherbird	58
Buzzard	139
Cardinal	83
Catbird	13
Cedar-bird	50
Chat	26
Chewink	64
Chickadee	9
Coot	161
Cowbird	91
Cormorant	191
Crane, Blue	168
Sandhill	160
Creepers, Brown	12
Black and White	22
Crossbill	82
Crow	96
Cuckoo, Black-billed	119
Yellow-billed	118
Dickcissel	60
Diver, Great Northern	197
Dove, Mourning: Turtle	140
Duck, Bald-pate	180
Blue-bill	182
Buffle-head; Butter-ball	184
Canvas-back	187
Green-head	175
Lesser Scaup	182
Mallard	175
Pintail	178
Red-headed	186
Ring-necked	183
Ruddy	185
Sheldrake	189
Shoveler: Spoon-bill	179
Wigeon, Am.	180
Wood	181
Teal, Blue-winged	176
Green-winged	177

Eagle, Bald	No. 126
Golden	127
Finch, Pine	78
Purple	80
Plicker	111
Flycatcher, Acadian	103
Crested	101
Least	104
Trail's	102
Yellow-bellied	105
Gallinule	164
Gnatcatcher, Blue-gray	8
Goldfinch	61
Goose, Canada	172
Snow	174
White-fronted	173
Grackle, Bronzed	90
Grebe, Eared	199
Pied-billed	198
Grosbeak, Evening	84
Rose-breasted	62
Grouse, Ruffed	144
Gull, Herring	194
Franklin's	192
Ring-billed	193
Hawk, broad-winged	136
Chicken	130
Cooper's	133
Fish	129
Marsh	135
Pigeon	132
Red-shouldered	137
Red-tailed	130
Rough-legged	138
Sharp-shinned	134
Sparrow	131
Heron, Night	169
Great Blue	168
Green	165
Hummingbird	106
Indigo Bird	63
Jay, Blue	95
Junco	65
Killdeer	146
Kingbird	98
Kingfisher	117
Kinglet, Golden-crowned	7
Ruby-crowned	6
Kite, Swallow-tailed	128
Lark, Prairie; Horned	97
Linnet Red poll	79
Loon	197

Martin	No. 45
Meadowlark	85
Western	86
Merganser, Hooded	188
Red-breasted	189
Mockingbird	14
Mudhen	161
Red-billed	164
Nighthawk	108
Nuthatch, Red-breasted	11
White-breasted	10
Oriole, Baltimore	87
Orchard	88
Osprey	129
Ovenbird	27
Owl, Barred	121
Cat: Hoot	122
Great-horned	122
Long-eared	123
Screech	120
Short-eared	124
Snowy	125
Partridge	144
Pelican	190
Pewee	100
Phalarope	149
Phoebe	99
Pipit	19
Pigeon, Passenger	141
Plover, Belted Piping	147
Killdeer	146
Ring	147
Prairie Hen	143
Quail	142
Rail, Carolina: Sora	162
Virginia	163
Redbird	83
Redpoll	79
Redstart	25
Robin	0
Sandpiper, Baird's	157
Bartramian	156
Least	154
Ring: Semipalmated	158
Pectoral	153
Sandpiper, Spotted	152
Sapsucker	114
Shide Poke	165
Shrike, Northern	58
Loggerhead	59
Snowflake	81
Siskin, Pine	78
Snipe, Grass	153
Wilson's: Jack	150
Snowbird	65
Sparrow, Chipping	69
Field	67
Fox	71
Grasshopper	70
Lark	72
Lincoln	77
Savanna	76
Song	66
Tree	68
Vesper	75
White-crowned	74
White-throated	73
Yellow-winged	70

Swallow, Bank	No. 47
Barn	46
Cliff: Eave	48
Tree: White-bellied	49
Swan, Trumpeter	171
Whistling	170
Swift, Chimney	107
Tanager	44
Tern, Black	195
Caspian	196
Thrasher, Brown	15
Thrush, Hermit	3
Olive-backed: Swainson's	5
Wilson's: Tawny	4
Wood	2
Titlark	19
Towhee	64
Turkey, Wild	145
Veery	4
Virco, Bell's	53
Blue-headed	57
Philadelphia	54
Red-eyed	51
Warbling	52
White-eyed	55
Yellow-throated	56
Vulture, Turkey	139
Warbler, Black-Cap	30
Black and Yellow	31
Blackburnian	28
Black-poll	35
Black and White Creeping	22
Black-throated Blue	40
Black-throated Green	39
Blue-winged Yellow	33
Canadian	36
Cape May	41
Cerulean	32
Chestnut-sided	23
Magnolia	31
Myrtle	21
Palm	24
Parula	43
Pine	38
Prothonotary	34
Tennessee	42
Worm-eating	37
Yellow	20
Yellow-throated	29
Yellow-rumped	21
Waxwing, Cedar	50
Whippoorwill	109
Woodcock	151
Woodpecker, Downy	113
Golden-winged	111
Hairy	112
Pileated	116
Red-bellied	115
Red-headed	110
Yellow-bellied	114
Wren, House	16
Prairie Marsh	17
Short-billed Marsh	18
Yellow-bird	20
Yellow Hammer	111
Yellow-Legs Greater	159
Lesser	158
Yellow-throat, Northern	29

PUBLISHER'S NOTICES

Because of the desire to place this handbook in circulation during the present migration season, errors have crept in which with more deliberation might have been prevented.

ERRATA

- Page 6, second line *easiest* should read *most easily*.
- Page 7, *Passeries* should be *Passeres*.
- Page 23, under No. 58, *back* should be *black*.
- Page 30, under No. 90 and 91, *Polygamus* should be *Polygamous*.
- Page 32, under No. 100, *of* should be *or*.
- Page 32, under No. 103, *Olivacerous* should be *Olivaceous*.
- Page 32, under No. 104, *easiest* should be *most easily*.
- Page 37, under No. 125 *dismal* should be *diurnal*.

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